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DATE: Friday, October 31, 2003

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DB=USPT,JPAB,EPAB,DWPI; THES=ASSIGNEE; PLUR=YES; OP=ADJ			
L5	l4 and (gene or nucleic acid or dna or cdna)	104	L5
L4	L3 or l2	315	L4
L3	fructosyl adj2 transferase	158	L3
L2	fructofuranosidase	161	L2
L1	fructofuranosidase	161	L1

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☐ 1. Document ID: US 6635460 B1

L5: Entry 1 of 104 File: USPT Oct 21, 2003

US-PAT-NO: 6635460
DOCUMENT-IDENTIFIER: US 6635460 B1

TITLE: Fructosyltransferases

DATE-ISSUED: October 21, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE ZIP CODE	COUNTRY
Van Hijum; Sacha Adrianus Fokke Taco	Groningen		NL
Van Geel-Schutten; Gerritdina Hendrika	Driebergen-Rijsenburg		NL
Dijkhuizen; Lubbert	Zuidlaren		NL
Rahaoui; Hakim	Amersfoort		NL

US-CL-CURRENT: 435/193; 536/23.2

ABSTRACT:

The present invention describes two novel proteins having fructosyltransferase activity. Both enzymes are derived from lactobacilli, which are food-grade microorganisms with the Generally Recognized As Safe (GRAS) status. One of these proteins produces an inulin and fructo-oligosaccharides, while the other produces a levan. According to the invention lactobacilli capable of producing an inulin and/or a levan and/or fructo-oligosaccharides using one or both of the fructosyltransferases can be used as a probiotic or a symbiotic.

5 Claims, 9 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 9

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Drawi Desc | Image

☐ 2. Document ID: US 6617171 B2

L5: Entry 2 of 104 File: USPT Sep 9, 2003

US-PAT-NO: 6617171
DOCUMENT-IDENTIFIER: US 6617171 B2

TITLE: Methods for diagnosing and treating autoimmune disease

DATE-ISSUED: September 9, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Faustman; Denise L.	Weston	MA		
Hayashi; Takuma	Cambridge	MA		

US-CL-CURRENT: 436/506; 435/7.1

ABSTRACT:

The invention provides a method of detecting autoimmune disease in a mammal, comprising providing a biological sample from a mammal and detecting proteasome activity, wherein a reduction in proteasome activity from a basal state is indicative of autoimmune disease. In addition, the invention encompasses a method of treating an autoimmune disease in a mammal, comprising administering to a mammal suspected of suffering from an autoimmune disease an agent which restores NF.kappa.B activity in an amount and for a time sufficient to result in normal NF.kappa.B activity in the mammal.

4 Claims, 31 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 19

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw. Desc | Image

☐ 3. Document ID: US 6602658 B1

L5: Entry 3 of 104 File: USPT Aug 5, 2003

US-PAT-NO: 6602658
DOCUMENT-IDENTIFIER: US 6602658 B1

TITLE: Multiple reporter gene assay

DATE-ISSUED: August 5, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Bronstein; Irena Y.	Newton	MA		
Fortin; John J.	Georgetown	MA		
Martin; Chris S.	Belmont	MA		
Voyta; John C.	Sudbury	MA		

US-CL-CURRENT: 435/4; 435/6

ABSTRACT:

A method of measuring the activity of at least two reporter gene products in an aliquot of a sample extract is disclosed. The activities of a first and second reporter enzyme are quantified by measuring the light signal produced by degradation of a first substrate by the first reporter enzyme and the light signal produced by the degradation of a second substrate by a second reporter enzyme. Both quantifications are sequentially performed on the same aliquot of sample extract.

6 Claims, 3 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 3

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw. Desc | Image

☐ 4. Document ID: US 6602657 B1

L5: Entry 4 of 104 File: USPT Aug 5, 2003

US-PAT-NO: 6602657
DOCUMENT-IDENTIFIER: US 6602657 B1

TITLE: Multiple reporter gene assay

DATE-ISSUED: August 5, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Bronstein; Irena Y.	Newton	MA		
Fortin; John J.	Georgetown	MA		
Martin; Chris S.	Belmont	MA		
Voyta; John C.	Sudbury	MA		

US-CL-CURRENT: 435/4; 435/6

ABSTRACT:

A method of measuring the activity of at least two reporter gene products in an aliquot of a sample extract is disclosed. The activities of a first and second reporter enzyme are quantified by measuring the light signal produced by degradation of a first substrate by the first reporter enzyme and the light signal produced by the degradation of a second substrate by a second reporter enzyme. Both quantifications are sequentially performed on the same aliquot of sample extract.

40 Claims, 0 Drawing figures
Exemplary Claim Number: 1

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw Desc | Image

☐ 5. Document ID: US 6586196 B1

L5: Entry 5 of 104 File: USPT Jul 1, 2003

US-PAT-NO: 6586196
DOCUMENT-IDENTIFIER: US 6586196 B1

TITLE: Multiple enzyme assays

DATE-ISSUED: July 1, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Bronstein; Irena	Newton	MA		
Martin; Christopher	Bedford	MA		
Olesen; Corinne	Bedford	MA		
Voyta; John	Sudbury	MA		
Yan; Yu-xin	Burlington	MA		

US-CL-CURRENT: 435/21; 435/14, 435/23, 435/4, 549/510

ABSTRACT:

The present invention discloses multiple enzyme assays which measure the activity of at least one endogenous enzyme in a single aliquot and a method of measuring the activity of multiple enzymes in an aliquot of a cell extract, wherein at least one of the enzymes is an endogenous enzyme. In one embodiment of the invention the activity of a first enzyme is quantified by measuring the light signal produced by degradation of a first enzyme substrate by the first enzyme and the activity of the second enzyme is quantified by measuring the light signal produced by the degradation of a second substrate. In the method of the present invention, both quantifications are performed on the same aliquot of cell extract. Different embodiments of the present invention provide for the detection of more than one endogenous enzyme and for the detection of at least one reporter enzyme and at least one endogenous enzyme. The present invention also discloses kits for detecting the activity of multiple enzymes.

31 Claims, 7 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 5

☐ 6. Document ID: US 6570065 B1

L5: Entry 6 of 104 File: USPT May 27, 2003

US-PAT-NO: 6570065
DOCUMENT-IDENTIFIER: US 6570065 B1

TITLE: Nucleic acid molecules encoding alternansucrase

DATE-ISSUED: May 27, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Kossmann; Jens	Berlin			DE
Welsh; Thomas	Berlin			DE
Quanz; Martin	Berlin			DE
Knuth; Karola	Berlin			DE

US-CL-CURRENT: 800/284; 435/101, 435/193, 435/252.3, 435/252.33, 435/320.1, 435/419, 435/468, 435/471, 435/476, 435/69.1 , 435/70.1, 435/71.1, 536/23.2, 536/23.7, 800/278, 800/288, 800/305, 800/306, 800/312, 800/314, 800/317.2 , 800/320, 800/320.1, 800/320.2, 800/320.3, 800/322

ABSTRACT:

Nucleic acid molecules encoding an alternansucrase are provided. Moreover, vectors, host cells and plant cells transformed by the herein-described nucleic acid molecules and plants containing them are provided. Furthermore, methods are described for preparing transgenic plants which synthesize the carbohydrate alternan, because of the insertion of nucleic acid molecules encoding an alternansucrase. Moreover, methods for preparing alternan and products resulting from them are provided.

17 Claims, 12 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 12

☐ 7. Document ID: US 6566111 B1

L5: Entry 7 of 104 File: USPT May 20, 2003

US-PAT-NO: 6566111
DOCUMENT-IDENTIFIER: US 6566111 B1

TITLE: .beta.-fructofuranosidase and gene thereof

DATE-ISSUED: May 20, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Yanai; Koji	Sakado			JP
Nakane; Akitaka	Sakado			JP
Kono; Toshiaki	Sakado			JP

US-CL-CURRENT: 435/200; 435/183, 435/193, 530/350, 536/23.2

ABSTRACT:

A novel .beta.-fructofuranosidase and its gene are disclosed. A polypeptide comprising the amino acid sequence of SEQ ID No. 1 or No. 3 is an enzyme having .beta.-fructofuranosidase activity and high transferase activity, and is capable of efficiently producing fructooligosaccharides.

1 Claims, 6 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 6

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC
Draw. Desc | Image

☐ 8. Document ID: US 6559356 B1

L5: Entry 8 of 104 File: USPT May 6, 2003

US-PAT-NO: 6559356
DOCUMENT-IDENTIFIER: US 6559356 B1

TITLE: Nucleic acid molecules which encode proteins having fructosyl transferase activity and methods for producing long-chain inulin

DATE-ISSUED: May 6, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Heyer; Arnd G.	Berlin			DE
Hellwege; Elke	Berlin			DE
Gritscher; Dominique	Berlin			DE

US-CL-CURRENT: 800/284; 435/101, 435/193, 435/320.1, 435/419, 435/69.1, 536/23.6, 800/278, 800/287, 800/306, 800/312, 800/317.2, 800/317.4, 800/320, 800/320.1,

800/320.2, 800/320.3

ABSTRACT:

Nucleic acid molecules which encode proteins having fructosyl transferase activity and methods for producing long-chain inulin Nucleic acid molecules are described encoding proteins with the enzymatic activity of a fructosyl transferase. These enzymes are fructosyl transferases (FFT). Moreover, vectors and host cells are described containing the nucleic acid molecules of the invention, in particular transformed plant cells, plant tissue and plants regenerable therefrom, which express the described FFT. Furthermore, methods for the production of long-chain inulin by using the described proteins, hosts, in particular the plant cells and/or FFT produced by them, are described.

29 Claims, 5 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 5

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw. Desc | Image

☐ 9. Document ID: US 6524827 B2

L5: Entry 9 of 104 File: USPT Feb 25, 2003

US-PAT-NO: 6524827
DOCUMENT-IDENTIFIER: US 6524827 B2

TITLE: 2,6-.beta.-D-fructan hydrolase enzyme and processes for using the enzyme

DATE-ISSUED: February 25, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Moller; Soren	Holte			DK
Johansen; Charlotte	Holte			DK
Schafer; Thomas	Farum			DK
Ostergaard; Peter Rahbek	Virum			DK
Hoeck; Lisbeth Hedegaard	Skodsborg			DK

US-CL-CURRENT: 435/74; 435/183, 435/252.3, 435/252.33, 435/320.1, 536/23.2

ABSTRACT:

The present invention relates to isolated polypeptides having polypeptide having 2,6-.beta.-D-fructan hydrolase activity and isolated nucleic acid sequences encoding the polypeptides. The invention also relates to nucleic acid constructs, vectors, and host cells comprising the nucleic acid sequences as well as methods for producing and using the polypeptides.

16 Claims, 8 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 8

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw. Desc | Image

☐ 10. Document ID: US 6515203 B1

L5: Entry 10 of 104 File: USPT Feb 4, 2003

US-PAT-NO: 6515203
DOCUMENT-IDENTIFIER: US 6515203 B1

TITLE: Nucleic acid molecules encoding enzymes having fructosyl polymerase activity

DATE-ISSUED: February 4, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Heyer; Arnd G.	Berlin			DE
Hellwege; Elke	Berlin			DE
Gritscher; Dominique	Berlin			DE

US-CL-CURRENT: 800/284; 435/101, 435/193, 435/320.1, 435/419, 435/468, 435/69.1, 536/23.6, 800/278, 800/287, 800/317.2, 800/320, 800/320.1, 800/320.2, 800/320.3

ABSTRACT:

Described are nucleic acid molecules encoding enzymes having fructosyl polymerase activity. These enzymes are sucrose dependent sucrose fructosyltransferases (SST) enzymes. Furthermore, vectors and host cells are described containing the nucleic acid molecules, in particular transformed plant cells and plants that can be regenerated from them and that express the described SSTs. Furthermore, methods for the production of short-chain fructosyl polymers using the described hosts and/or the SSTs produced by them are described.

20 Claims, 5 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 4

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw Desc | Image

☐ 11. Document ID: US 6501005 B1

L5: Entry 11 of 104 File: USPT Dec 31, 2002

US-PAT-NO: 6501005
DOCUMENT-IDENTIFIER: US 6501005 B1

TITLE: DNA sequences which lead to the formation of polyfructans (levans), plasmids containing these sequences as well as a process for preparing transgenic plants

DATE-ISSUED: December 31, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Rober; Manuela	Berlin			DE
Geier; Gebhard	Dossenheim			DE
Geider; Klaus	Sandhausen			DE
Willmitzer; Lothar	Berlin			DE

US-CL-CURRENT: 800/284; 435/419, 435/430, 435/468, 800/288, 800/298

ABSTRACT:

DNA which leads to the formation of polyfructans (levans), plasmids containing this DNA, as well as processes using plasmids for preparing transgenic plants with polyfructan (levan) expression.

10 Claims, 5 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 3

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC
Draw Desc | Image

☐ 12. Document ID: US 6500933 B1

L5: Entry 12 of 104 File: USPT Dec 31, 2002

US-PAT-NO: 6500933
DOCUMENT-IDENTIFIER: US 6500933 B1

TITLE: Methods of preparing carbohydrate crosslinked glycoprotein crystals

DATE-ISSUED: December 31, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Margolin; Alexey L.	Newton	MA		
Govardhan; Chandrika P.	Lexington	MA		
Visuri; Kalevi J.	Kirkkonummi			FI
Uotila; Sinikka S.	Espoo			FI

US-CL-CURRENT: 530/395; 424/193.1, 424/194.1, 435/174, 435/178, 435/181, 435/39, 530/402, 530/408, 530/813, 530/815, 530/816

ABSTRACT:

The present invention relates to the field of carbohydrate crosslinked glycoprotein crystals. Advantageously, such crosslinked glycoprotein crystals display stability to harsh environmental conditions, while maintaining the structural and functional integrity of the glycoprotein backbone. According to one embodiment, this invention relates to methods for concentrating proteins that have been modified by carbohydrates and for releasing their activity at controlled rates. This invention also provides methods for producing carbohydrate crosslinked glycoprotein crystals and methods for using them in pharmaceutical formulations, vaccines, immunotherapeutics, personal care compositions, including cosmetics, veterinary pharmaceutical compositions and vaccines, foods, feeds, diagnostics, cleaning agents, including detergents and decontamination formulations. The physical and chemical characteristics of carbohydrate crosslinked glycoprotein crystals render them particularly useful as sorbents for separations, such as chiral chromatography, or affinity chromatography--which are based on specific interactions between the active binding site of the glycoprotein component of the crystals and the substance or molecule of interest. Such characteristics also render carbohydrate crosslinked glycoprotein crystals useful as catalytic and binding components for the production of biosensing devices.

13 Claims, 0 Drawing figures
Exemplary Claim Number: 1

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC
Draw Desc | Image

☐ 13. Document ID: US 6465203 B2

L5: Entry 13 of 104 File: USPT Oct 15, 2002

US-PAT-NO: 6465203
DOCUMENT-IDENTIFIER: US 6465203 B2

TITLE: Glucan-containing compositions and paper

DATE-ISSUED: October 15, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Nichols; Scott E.	Johnston	IA		

US-CL-CURRENT: 435/15; 435/170, 435/18, 435/278, 435/4, 435/6, 435/885, 435/886, 536/1.11, 536/123.12, 536/124, 536/128 , 536/18.5, 800/284

ABSTRACT:

The present invention provides methods of making paper, utilizing glucans, produced by the glucosyltransferase B, C or D enzyme of the species Streptococcus mutans, instead of modified starches. The present glucans are functionally similar to currently utilized modified starches and are particularly useful in the coating step of paper manufacture. The present glucans also exhibit thermoplastic properties and impart gloss to the paper during the coating step.

34 Claims, 0 Drawing figures
Exemplary Claim Number: 1

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw Desc | Image

☐ 14. Document ID: US 6423833 B1

L5: Entry 14 of 104 File: USPT Jul 23, 2002

US-PAT-NO: 6423833
DOCUMENT-IDENTIFIER: US 6423833 B1

TITLE: Functional sugar polymers from inexpensive sugar sources and apparatus for preparing same

DATE-ISSUED: July 23, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Catani; Steven J.	Athens	GA	30606	
Laurenzo; Kathleen S.	Athens	GA	30605	
Navia; Juan L.	Athens	GA	30606	
Walkup; Robert E.	Novi	MI	48374-3648	

US-CL-CURRENT: 536/18.5; 435/101, 435/97, 536/123, 536/123.1, 536/124

ABSTRACT:

A process for preparing functional sugar polymers comprising transferring a monosaccharide or oligosaccharide to an acceptor, removing by-products, separating polymers which have not achieved the desired chain length and recycling these

underdeveloped polymers, and an apparatus for producing same.

17 Claims, 6 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 6

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw. Desc | Image

☐ 15. Document ID: US 6395299 B1

L5: Entry 15 of 104 File: USPT May 28, 2002

US-PAT-NO: 6395299
DOCUMENT-IDENTIFIER: US 6395299 B1

TITLE: Matrices for drug delivery and methods for making and using the same

DATE-ISSUED: May 28, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Babich; John W.	Scituate	MA		
Zubieta; Jon	Syracuse	NY		
Bonavia; Grant	Kensington	MD		

US-CL-CURRENT: 424/484

ABSTRACT:

In one aspect, biocompatible matrices such as sol-gels encapsulating a reaction center may be administered to a subject for conversion of prodrugs into biologically active agents. In certain embodiments, the biocompatible matrices of the present invention are sol-gels. In one embodiment, the enzyme L-amino acid decarboxylase is encapsulated and implanted in the brain to convert L-dopa to dopamine for treatment of Parkinson's disease.

140 Claims, 13 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 13

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw. Desc | Image

☐ 16. Document ID: US 6383769 B1

L5: Entry 16 of 104 File: USPT May 7, 2002

US-PAT-NO: 6383769
DOCUMENT-IDENTIFIER: US 6383769 B1

TITLE: Polypeptides having .beta.-fructofuranosidase activity

DATE-ISSUED: May 7, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Tsusaki; Keiji	Okayama			JP
Kubota; Michio	Okayama			JP
Chaen; Hiroto	Okayama			JP

US-CL-CURRENT: 435/15; 435/200

ABSTRACT:

Disclosed are a polypeptide having a .beta.-fructofuranosidase activity obtainable by the expression of a microbial gene, a DNA encoding the polypeptide, a transformant obtained by introducing the DNA into an appropriate host, a process for producing the polypeptide comprising culturing the transformant to produce the polypeptide and collecting the produced polypeptide from the culture, and a method for fructofuranosyl transfer comprising a step of reacting a fructofuranosyl donor with a fructofuranosyl acceptor in the presence of the polypeptide.

5 Claims, 6 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 6

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw. Desc | Image

☐ 17. Document ID: US 6365800 B1

L5: Entry 17 of 104 File: USPT Apr 2, 2002

US-PAT-NO: 6365800
DOCUMENT-IDENTIFIER: US 6365800 B1

TITLE: Transgenic crops accumulating fructose polymers and methods for their production

DATE-ISSUED: April 2, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Caimi; Perry G.	Kennett Square	PA		

US-CL-CURRENT: 800/284; 435/101, 435/193, 435/419, 536/23.6, 800/287, 800/320, 800/320.1

ABSTRACT:

A method for producing fructose polymers of various lengths through expression of plant-derived FTF genes in transgenic monocot plants is disclosed. Also disclosed are transgenic monocot plants seeds derived from said plants wherein the level of fructan that accumulates in the cells of the transgenic monocot plants and seeds is increased when compared to the level of fructan that accumulates in the cells of monocot plants and that do not contain the instant chimeric gene(s) encoding plant-derived FTF genes.

19 Claims, 5 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 5

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw. Desc | Image

☐ 18. Document ID: US 6359118 B2

L5: Entry 18 of 104 File: USPT Mar 19, 2002

US-PAT-NO: 6359118
DOCUMENT-IDENTIFIER: US 6359118 B2

TITLE: Carbohydrate crosslinked glycoprotein crystals

DATE-ISSUED: March 19, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Margolin; Alexey L.	Newton	MA		
Govardhan; Chandrika Poorna	Lexington	MA		
Visuri; Kalevi	Kantvik			FI
Uotila; Sinikka	Espoo			FI

US-CL-CURRENT: 530/395; 424/193.1, 424/194.1, 435/174, 435/178, 435/181, 435/39, 530/402, 530/408, 530/813, 530/815, 530/816

ABSTRACT:

The present invention relates to the field of carbohydrate crosslinked glycoprotein crystals. Advantageously, such crosslinked glycoprotein crystals display stability to harsh environmental conditions, while maintaining the structural and functional integrity of the glycoprotein backbone. According to one embodiment, this invention relates to methods for concentrating proteins that have been modified by carbohydrates and for releasing their activity at controlled rates. This invention also provides methods for producing carbohydrate crosslinked glycoprotein crystals and methods for using them in pharmaceutical formulations, vaccines, immunotherapeutics, personal care compositions, including cosmetics, veterinary pharmaceutical compositions and vaccines, foods, feeds, diagnostics, cleaning agents, including detergents and decontamination formulations. The physical and chemical characteristics of carbohydrate crosslinked glycoprotein crystals render them particularly useful as sorbents for separations, such as chiral chromatography, or affinity chromatography--which are based on specific interactions between the active binding site of the glycoprotein component of the crystals and the substance or molecule of interest. Such characteristics also render carbohydrate crosslinked glycoprotein crystals useful as catalytic and binding components for the production of biosensing devices.

24 Claims, 0 Drawing figures
Exemplary Claim Number: 1

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC
Draw Desc | Image

☐ 19. Document ID: US 6355441 B1

L5: Entry 19 of 104 File: USPT Mar 12, 2002

US-PAT-NO: 6355441
DOCUMENT-IDENTIFIER: US 6355441 B1

TITLE: Benzothiazole dioxetanes

DATE-ISSUED: March 12, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Edwards; Brooks	Cambridge	MA		
Bronstein; Irena	Newton	MA		

US-CL-CURRENT: 435/7.1; 435/6, 435/7.4, 530/330, 530/331, 530/807, 548/526, 549/264, 549/332

ABSTRACT:

Chemiluminescent 1,2-dioxetane compounds capable of producing light energy when decomposed, substantially stable at room temperature, represented by the formulas I or II: ##STR1##

20 Claims, 16 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 17

☐ 20. Document ID: US 6337201 B1

L5: Entry 20 of 104 File: USPT Jan 8, 2002

US-PAT-NO: 6337201
DOCUMENT-IDENTIFIER: US 6337201 B1

TITLE: .beta.-fructofuranosidase and its gene, method of isolating .beta.-fructofuranosidase gene, system for producing .beta.-fructofuranosidase, and .beta.-fructofuranosidase variant

DATE-ISSUED: January 8, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Yanai; Koji	Sakado			JP
Nakane; Akitaka	Sakado			JP
Nakamura; Hirofumi	Sakado			JP
Baba; Yuko	Sakado			JP
Watabe; Akemi	Sakado			JP
Hirayama; Masao	Sakado			JP

US-CL-CURRENT: 435/200; 435/183, 435/193, 530/350

ABSTRACT:

A novel .beta.-fructofuranosidase gene and a .beta.-fructofuranosidase encoded by the gene, a process for isolating a .beta.-fructofuranosidase gene using the novel .beta.-fructofuranosidase gene, and a novel .beta.-fructofuranosidase obtained by this isolation process are disclosed. A novel mold fungus having no .beta.-fructofuranosidase activity suitable for the production of .beta.-fructofuranosidase, and a system for producing a recombinant .beta.-fructofuranosidase using the novel mold fungus as a host is disclosed. Further, a .beta.-fructofuranosidase variant which selectively and efficiently produces a specific fructooligosaccharide such as 1-kestose from sucrose is disclosed.

10 Claims, 11 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 10

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Search Results - Record(s) 21 through 40 of 104 returned.

☐ 21. Document ID: US 6323007 B1

L5: Entry 21 of 104 File: USPT Nov 27, 2001

US-PAT-NO: 6323007
DOCUMENT-IDENTIFIER: US 6323007 B1

TITLE: 2,6-.beta.-D-fructan hydrolase enzyme and processes for using the enzyme

DATE-ISSUED: November 27, 2001

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Moller; Soren	Holte			DK
Johansen; Charlotte	Holte			DK
Schafer; Thomas	Farum			DK
Ostergaard; Peter Rahbek	Virum			DK
Hoeck; Lisbeth Hedegaard	Skodsborg			DK

US-CL-CURRENT: 435/74; 435/200, 435/252.33, 435/262, 435/274, 435/320.1

ABSTRACT:

The present invention relates to isolated polypeptides having polypeptide having 2,6-.beta.-D-fructan hydrolase activity and isolated nucleic acid sequences encoding the polypeptides. The invention also relates to nucleic acid constructs, vectors, and host cells comprising the nucleic acid sequences as well as methods for producing and using the polypeptides.

10 Claims, 8 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 8

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw. Desc | Image

☐ 22. Document ID: US 6322727 B1

L5: Entry 22 of 104 File: USPT Nov 27, 2001

US-PAT-NO: 6322727
DOCUMENT-IDENTIFIER: US 6322727 B1

TITLE: Kit for conducting an assay to detect a substance using enzymatically-induced decomposition of dioxetanes

DATE-ISSUED: November 27, 2001

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Bronstein; Irena Y.	Newton	MA		

US-CL-CURRENT: 252/700; 435/6, 435/7.1, 435/7.9, 549/333, 549/510

ABSTRACT:

A kit for detecting a first substance in a sample including a stabilized 1,2-dioxetane bearing an enzyme-labile substituent, which is destabilized and caused to decompose by contacting the 1,2-dioxetane with an enzyme under conditions which cause the enzyme to cleave the enzyme-labile group from the dioxetane, thereby yielding a negatively charged oxygen anion bonded to the 1,2-dioxetane, which causes the 1,2-dioxetane to decompose without input from an external excitation energy source, the decomposition being accompanied by chemiluminescence; and a second component selected from the group consisting of a specific affinity substance (e.g., an antigen, an antibody or a nucleic acid probe) and an enzyme which destabilizes said 1,2-dioxetane.

1 Claims, 0 Drawing figures
Exemplary Claim Number: 1

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw. Desc | Image

☐ 23. Document ID: US 6284510 B1

L5: Entry 23 of 104 File: USPT Sep 4, 2001

US-PAT-NO: 6284510
DOCUMENT-IDENTIFIER: US 6284510 B1

TITLE: .beta.-fructofuranosidase gene

DATE-ISSUED: September 4, 2001

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Ito; Tetsuya	Yokohama			JP
Fujita; Koki	Yokohama			JP
Hara; Kozo	Yokohama			JP
Tonozuka; Takashi	Kunitachi			JP
Sakano; Yoshiyuki	Kunitachi			JP

US-CL-CURRENT: 435/200; 435/183, 435/252.3, 435/320.1, 435/69.1

ABSTRACT:

A .beta.-fructofuranosidase gene coding for a protein having an amino acid sequence described in Seq. I.D. No. 1 in the Sequence Listing. The gene enables production of .beta.-fructofuranosidase on a large scale more easily and less dependently on the productivity of microorganisms than the production by cultivation of the microorganisms. Also, the .beta.-fructofuranosidase gene is useful for the development of variant enzymes that have increased heat resistance and transfer ratio by means of genetic engineering techniques.

7 Claims, 0 Drawing figures
Exemplary Claim Number: 1

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC
Draw Desc | Image

☐ 24. Document ID: US 6284479 B1

L5: Entry 24 of 104 File: USPT Sep 4, 2001

US-PAT-NO: 6284479
DOCUMENT-IDENTIFIER: US 6284479 B1

TITLE: Substitutes for modified starch and latexes in paper manufacture

DATE-ISSUED: September 4, 2001

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Nichols; Scott E.	Johnston	IA		

US-CL-CURRENT: 435/15; 162/100, 435/170, 435/18, 435/278, 435/4, 435/885, 435/886, 536/1.11, 536/123.12, 536/124, 536/128, 536/18.5

ABSTRACT:

The present invention provides methods of making paper, utilizing glucans, produced by the glucosyltransferase B, C or D enzyme of the species Streptococcus mutans, instead of modified starches. The present glucans are functionally similar to currently utilized modified starches and are particularly useful in the coating step of paper manufacture. The present glucans also exhibit thermoplastic properties and impart gloss to the paper during the coating step.

14 Claims, 5 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 4

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC
Draw Desc | Image

☐ 25. Document ID: US 6258360 B1

L5: Entry 25 of 104 File: USPT Jul 10, 2001

US-PAT-NO: 6258360
DOCUMENT-IDENTIFIER: US 6258360 B1

TITLE: Prodrugs activated by targeted catalytic proteins

DATE-ISSUED: July 10, 2001

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
von Borstel; Reid	Potomac	MD		
Casadei; Jan M.	Bethesda	MD		
Kamireddy; Balreddy	Rockville	MD		
Kenten; John Henry	Gaithersburg	MD		
Martin; Mark T.	Germantown	MD		
Massey; Richard J.	Rockville	MD		
Napper; Andrew D.	Natick	MA		
Simpson; David M.	Adelphia	MD		
Smith; Rodger G.	Jefferson	MD		
Titmas; Richard C.	Rockville	MD		
Williams; Richard O.	Potomac	MD		

US-CL-CURRENT: 424/182.1; 424/152.1, 424/155.1, 424/174.1, 435/188.5, 514/49, 514/50, 536/27.4, 536/28.55

ABSTRACT:

Prodrugs that are activated by and conjugated to a catalytic antibody conjugated to a moiety that binds to a tumor cell population are provided.

13 Claims, 45 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 37

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw. Desc | Image

☐ 26. Document ID: US 6255562 B1

L5: Entry 26 of 104 File: USPT Jul 3, 2001

US-PAT-NO: 6255562
DOCUMENT-IDENTIFIER: US 6255562 B1

TITLE: Process for producing transgenic inulin-generating plants

DATE-ISSUED: July 3, 2001

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Heyer; Arnd G.	Berlin			DE
Wendenburg; Regina	Berlin			DE

US-CL-CURRENT: 800/284; 435/101, 435/193, 435/252.3, 435/320.1, 435/412, 435/417, 435/419, 435/468, 435/69.7, 435/69.8, 800/278, 800/287, 800/288, 800/317.2, 800/320, 800/320.1, 800/320.2, 800/320.3

ABSTRACT:

The present invention relates to a process for preparing recombinantly modified, inulin-producing plants, to the DNA sequences which are used in this context and to the transformed plants which are obtained.

27 Claims, 6 Drawing figures
Exemplary Claim Number: 1,8,14
Number of Drawing Sheets: 6

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC
Draw Desc | Image

☐ 27. Document ID: US 6248936 B1

L5: Entry 27 of 104 File: USPT Jun 19, 2001

US-PAT-NO: 6248936
DOCUMENT-IDENTIFIER: US 6248936 B1

TITLE: Sugarbeet storage-root-tissue-specific regulon

DATE-ISSUED: June 19, 2001

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Hofgen; Rainer	Berlin			DE
Hesse; Holger	Berlin			DE

US-CL-CURRENT: 800/287; 435/320.1, 435/410, 435/419, 435/468, 536/23.6, 536/24.1, 800/298

ABSTRACT:

The present invention relates to a new regulon which in storage roots of the sugar beet (Beta vulgaris L.) constitutively expresses the gene which is under its control, such that a transition from anaerobic to aerobic conditions, a transition from normal temperature (appr. 22.degree. C.) to cold temperature (appr. 4.degree. C.) and changing sugar concentrations do not alter the transcription activity of the regulon in the storage root tissue.

12 Claims, 4 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 2

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC
Draw Desc | Image

☐ 28. Document ID: US 6242225 B1

L5: Entry 28 of 104 File: USPT Jun 5, 2001

US-PAT-NO: 6242225
DOCUMENT-IDENTIFIER: US 6242225 B1

TITLE: Process for processing sucrose into glucose and fructose

DATE-ISSUED: June 5, 2001

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Catani; Steven J.	Athens	GA		
Roth; Stephen A.	Gladwyne	PA		
McGuire; Edward J.	Furlong	PA		
Navia; Juan L.	Athens	GA		

US-CL-CURRENT: 435/101; 435/105, 435/193

ABSTRACT:

The present invention relates to a process of preparing commercial quantities of glucose and/or fructose from sucrose, a process of preparing commercial quantities of glucose and a polyfructan from sucrose, a reactor for practicing same, a process of preparing commercial quantities of fructose and a polyglucan from sucrose and a reactor for practicing same.

8 Claims, 7 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 4

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw. Desc | Image

☐ 29. Document ID: US 6162610 A

L5: Entry 29 of 104 File: USPT Dec 19, 2000

US-PAT-NO: 6162610
DOCUMENT-IDENTIFIER: US 6162610 A

TITLE: Xanthan-ester and acridan substrates for horseradish peroxidase

DATE-ISSUED: December 19, 2000

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Bronstein; Irena	Newton	MA		
Edwards; Brooks	Cambridge	MA		
Voyta; John	Sudbury	MA		
Juo; Rouh-Rong	Allston	MA		

US-CL-CURRENT: 435/7.92; 435/188, 435/28, 435/6, 435/968, 546/102, 546/104, 549/223, 549/225, 549/24

ABSTRACT:

Xanthan esters and acridans are substrates for horseradish peroxidase. These stable, enzymatically cleavable chemiluminescent esters are substrates for horseradish peroxidase which, together with peroxide is among the extensively used enzyme in enzyme-linked detection methods, including immunoassays, oligonucleotide detection and nucleic acid hybridization. The novel compounds are used, together with peroxide, alkali and the peroxidase, to indicate the presence and/or concentration of target compounds. The assays may be enhanced by the use of polymeric quaternary onium enhancement compounds or similar compounds selected to enhance the chemiluminescence emitted.

24 Claims, 0 Drawing figures
Exemplary Claim Number: 1

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw. Desc | Image

☐ 30. Document ID: US 6127603 A

L5: Entry 30 of 104 File: USPT Oct 3, 2000

US-PAT-NO: 6127603
DOCUMENT-IDENTIFIER: US 6127603 A

TITLE: Plant cells and plants transformed with streptococcus mutans gene encoding glucosyltransferase C enzyme

DATE-ISSUED: October 3, 2000

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Nichols; Scott E.	Johnston	IA		

US-CL-CURRENT: 800/284; 435/101, 435/193, 435/412, 435/417, 435/418, 435/419, 435/468, 435/469, 435/470, 435/69.7, 435/69.8, 800/287, 800/288, 800/292, 800/293, 800/294, 800/317.2, 800/320, 800/320.1, 800/320.2, 800/320.3

ABSTRACT:

The present invention provides methods of making paper utilizing glucans, produced by the glucosyltransferase C enzyme of the species Streptococcus mutans, instead of modified starches. The present glucans are functionally similar to the hydroxethyl modified starch and are particularly useful in the coating step of paper manufacture. The present glucans also exhibit thermoplastic properties and impart gloss to the paper during the coating step. In particular, the present invention provides plant cells and plants transformed with the Streptococcus mutans gene encoding the glucosyltransferase C enzyme.

9 Claims, 0 Drawing figures
Exemplary Claim Number: 8

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw. Desc | Image

☐ 31. Document ID: US 6127602 A

L5: Entry 31 of 104 File: USPT Oct 3, 2000

US-PAT-NO: 6127602
DOCUMENT-IDENTIFIER: US 6127602 A

TITLE: Plant cells and plants transformed with streptococcus mutans genes encoding wild-type or mutant glucosyltransferase D enzymes

DATE-ISSUED: October 3, 2000

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Nichols; Scott E.	Johnston	IA		

US-CL-CURRENT: 800/284; 435/101, 435/193, 435/412, 435/417, 435/419, 435/440, 435/468, 435/469, 435/470, 800/276, 800/287, 800/288, 800/292, 800/293, 800/294, 800/317.2, 800/320, 800/320.1, 800/320.2, 800/320.3

ABSTRACT:

The present invention provides methods of making paper utilizing glucans, produced by

glucosyltransferase D enzymes of the species Streptococcus mutans, instead of modified starches. The present glucans are functionally similar to the hydroxethyl modified starch and are particularly useful in the sizing and coating steps of paper manufacture. The present glucans also exhibit thermoplastic properties and impart gloss to the paper during the coating step. In particular, the present invention provides plant cells and plants transformed with Streptococcus mutans genes encoding wild-type or mutant glucosyltransferase D enzymes.

9 Claims, 0 Drawing figures
Exemplary Claim Number: 1,5

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw. Desc | Image

☐ 32. Document ID: US 6121525 A

L5: Entry 32 of 104 File: USPT Sep 19, 2000

US-PAT-NO: 6121525
DOCUMENT-IDENTIFIER: US 6121525 A

TITLE: Inbred corn line ZS4199

DATE-ISSUED: September 19, 2000

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Nyhus; Kris	New Ulm	MN		

US-CL-CURRENT: 800/320.1; 435/412, 435/424, 435/430, 435/430.1, 800/275, 800/300.1, 800/301, 800/302

ABSTRACT:

Broadly this invention provides inbred corn line ZS4199. The methods for producing a corn plant by crossing the inbred line ZS4199 are encompassed by the invention. Additionally, the invention relates to the various parts of inbred ZS4199 including culturable cells. This invention relates to a hybrid corn seeds and plants produced by crossing the inbred line ZS4199 with at least one other corn line. This invention also relates to hybrid corn seeds and plants produced by crossing the isogenic inbred line ZS4199 containing at least one mutant gene or a transgene with at least one other corn line.

17 Claims, 0 Drawing figures
Exemplary Claim Number: 1

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw. Desc | Image

☐ 33. Document ID: US 6113816 A

L5: Entry 33 of 104 File: USPT Sep 5, 2000

US-PAT-NO: 6113816
DOCUMENT-IDENTIFIER: US 6113816 A

TITLE: Kit for conducting an assay to detect a substance using enzymatically-induced decomposition of dioxetanes

DATE-ISSUED: September 5, 2000

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Bronstein; Irena Y.	Newton	MA		

US-CL-CURRENT: 252/700; 435/183, 549/510

ABSTRACT:

A kit for detecting a first substance in a sample comprising a dioxetane having the formula: ##STR1## wherein T is a cycloalkyl or polycycloalkyl group bonded to the 4-membered ring portion of the dioxetane by a spiro linkage; Y is a fluorescent chromophore; X is H, alkyl, aryl, aralkyl, alkaryl, heteroalkyl, heteroaryl, cycloalkyl, cycloheteroalkyl, or an enzyme-cleavable group; and Z is H or an enzyme-cleavable group, provided that at least one of X or Z must be an enzyme-cleavable group; and an enzyme which cleaves the enzyme-cleavable group of the dioxetane creating an electron-rich moiety which destabilizes the dioxetane, causing it to decompose into two ketones, one ketone comprising the moiety T, and the other ketone comprising moieties X, Y and a portion of Z. The energy released by decomposition causes the moiety Y to luminesce.

24 Claims, 0 Drawing figures
Exemplary Claim Number: 1

☐ 34. Document ID: US 6103464 A

L5: Entry 34 of 104 File: USPT Aug 15, 2000

US-PAT-NO: 6103464
DOCUMENT-IDENTIFIER: US 6103464 A

TITLE: Method of detecting DNA encoding a .beta.-glucosidase from a filamentous fungus

DATE-ISSUED: August 15, 2000

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Fowler; Timothy	Belmont	CA		
Barnett; Christopher C.	South San Francisco	CA		
Shoemaker; Sharon	Fairfield	CA		

US-CL-CURRENT: 435/6; 536/23.1, 536/24.32

ABSTRACT:

A process for expressing extracellular .beta.-glucosidase in a filamentous fungus by expressing a fungal DNA sequence encoding enhanced, deleted or altered .beta.-glucosidase in a recombinant host microorganism is disclosed. Recombinant fungal cellulase compositions containing enhanced, deleted or altered expression of .beta.-glucosidase is also disclosed.

3 Claims, 14 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 13

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC
Draw. Desc | Image

☐ 35. Document ID: US 6087559 A

L5: Entry 35 of 104 File: USPT Jul 11, 2000

US-PAT-NO: 6087559
DOCUMENT-IDENTIFIER: US 6087559 A

TITLE: Plant cells and plants transformed with Streptococcus mutans genes encoding wild-type or mutant glucosyltransferase B enzymes

DATE-ISSUED: July 11, 2000

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Nichols; Scott E.	Johnston	IA		

US-CL-CURRENT: 800/284; 435/100, 435/101, 435/193, 435/412, 435/417, 435/419, 435/468, 435/469, 435/470, 435/69.7, 435/69.8, 800/278, 800/287, 800/288, 800/292, 800/293, 800/294, 800/298, 800/317.2, 800/320, 800/320.1, 800/320.2, 800/320.3

ABSTRACT:

The present invention provides methods of making paper utilizing glucans, produced by glucosyltransferase B enzymes of the species Streptococcus mutans, instead of modified starches. The present glucans are functionally similar to the hydroxethyl modified starch and are particularly useful in the sizing and coating steps of paper manufacture. The present glucans also exhibit thermoplastic properties and impart gloss to the paper during the coating step. In particular, the present invention provides plant cells and plants transformed with Streptococcus mutans genes encoding wild-type or mutant glucosyltransferase B enzymes.

9 Claims, 0 Drawing figures
Exemplary Claim Number: 6

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC
Draw. Desc | Image

☐ 36. Document ID: US 6057494 A

L5: Entry 36 of 104 File: USPT May 2, 2000

US-PAT-NO: 6057494
DOCUMENT-IDENTIFIER: US 6057494 A

TITLE: DNA sequences encoding carbohydrate polymer synthesizing enzymes and method for producing transgenic plants

DATE-ISSUED: May 2, 2000

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Koops; Andries Jurriaan	Wageningen			NL
van der Meer; Ingrid Maria	Wageningen			NL
Van Tunen; Arjen Johannus	Wageningen			NL

US-CL-CURRENT: 800/284; 435/101, 435/193, 435/419, 435/468, 435/471, 536/23.6, 536/24.5, 800/286, 800/298

ABSTRACT:

A DNA fragment is disclosed having a nucleotide sequence SEQ ID NO. 1 as shown in FIG. 4A or a homologous sequence having a similarity of at least 70% encoding 1-sucrose:sucrose fructosyltransferase. Another DNA fragment that is disclosed is a DNA fragment having a nucleotide sequence SEQ ID NO. 3 as shown in FIG. 4B or a homologous sequence having a similarity of at least 70% encoding 1-fructan:fructan fructosyltransferase. This invention also discloses a recombinant DNA comprising one or more of said DNA fragments, or comprising said DNA fragment(s) in the inverted orientation. Transformed organisms showing a modified fructan profile can be produced using said fragments.

26 Claims, 9 Drawing figures
Exemplary Claim Number: 1,2,10,11
Number of Drawing Sheets: 12

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC
Draw Desc | Image

☐ 37. Document ID: US 6028249 A

L5: Entry 37 of 104 File: USPT Feb 22, 2000

US-PAT-NO: 6028249
DOCUMENT-IDENTIFIER: US 6028249 A

TITLE: DNA sequences which lead to the formation of levans, plasmids containing these sequences as well as a process for preparing transgenic plants

DATE-ISSUED: February 22, 2000

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Rober; Manuela	Berlin			DE
Geier; Gebhard	Heidelberg/Dossenheim			DE
Geider; Klaus	Sandhausen			DE

US-CL-CURRENT: 800/284; 435/101, 435/193, 435/320.1, 435/468, 435/69.1, 536/23.7, 800/287, 800/288, 800/298, 800/317.2, 800/317.3, 800/320, 800/320.1, 800/320.2, 800/320.3

ABSTRACT:

There are described DNA sequences, which lead to the formation of polyfructans (levans), plasmids containing theses DNA sequences, as well as a process using these plasmids for preparing transgenic plants with polyfructan (levan) expression.

12 Claims, 5 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 5

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC
Draw Desc | Image

☐ 38. Document ID: US 6022725 A

L5: Entry 38 of 104 File: USPT Feb 8, 2000

US-PAT-NO: 6022725
DOCUMENT-IDENTIFIER: US 6022725 A

TITLE: Cloning and amplification of the .beta.-glucosidase gene of Trichoderma reesei

DATE-ISSUED: February 8, 2000

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Fowler; Timothy	Belmont	CA		
Barnett; Christopher C.	South San Francisco	CA		
Shoemaker; Sharon	Fairfield	CA		

US-CL-CURRENT: 435/209; 435/254.11, 435/254.3, 435/254.4, 435/254.5, 435/254.6, 435/320.1, 435/471, 435/484, 435/6, 536/23.1, 536/23.2, 536/23.74, 536/24.3, 536/24.32, 536/24.33

ABSTRACT:

A process for expressing extracellular .beta.-glucosidase in a filamentous fungus by expressing a fungal DNA sequence encoding enhanced, deleted or altered .beta.-glucosidase in a recombinant host microorganism is disclosed. Recombinant fungal cellulase compositions containing enhanced, deleted or altered expression of .beta.-glucosidase is also disclosed.

19 Claims, 8 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 10

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw. Desc | Image

☐ 39. Document ID: US RE36536 E

L5: Entry 39 of 104 File: USPT Jan 25, 2000

US-PAT-NO: RE36536
DOCUMENT-IDENTIFIER: US RE36536 E

TITLE: Method of detecting a substance using enzymatically-induced decomposition of dioxetanes

DATE-ISSUED: January 25, 2000

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Bronstein; Irena Y.	Newton	MA		

US-CL-CURRENT: 435/21; 435/125, 435/18, 435/19, 435/6, 435/810

ABSTRACT:

In an assay method in which a member of a specific binding pair is detected by means of an optically detectable reaction, the improvement wherein the optically detectable reaction includes the reaction, with an enzyme, of a dioxetane having the formula

##STR1## where T is a cycloalkyl or polycycloalkyl group bonded to the 4-membered ring portion of the dioxetane by a spiro linkage; Y is a fluorescent chromophore; X is hydrogen, alkyl, aryl, aralkyl, alkaryl, heteroalkyl, heteroaryl, cycloalkyl, cycloheteroalkyl, or enzyme-cleavable group; and Z is hydrogen or an enzyme-cleavable group, provided that at least one of X or Z must be an enzyme-cleavable group, so that the enzyme cleaves the enzyme-cleavable group from the dioxetane to form a negatively charged substituent bonded to the dioxetane, the negatively charged substituent causing the dioxetane to decompose to form a luminescent substance that includes group Y of said dioxetane.

70 Claims, 22 Drawing figures
Exemplary Claim Number: 16
Number of Drawing Sheets: 22

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw. Desc | Image

☐ 40. Document ID: US 5997913 A

L5: Entry 40 of 104 File: USPT Dec 7, 1999

US-PAT-NO: 5997913
DOCUMENT-IDENTIFIER: US 5997913 A

TITLE: Method enhancing flavor and aroma in foods by overexpression of .beta.-glucosidase

DATE-ISSUED: December 7, 1999

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Fowler; Timothy	Belmont	CA		
Barnett; Christopher C.	South San Francisco	CA		
Shoemaker; Sharon	Fairfield	CA		

US-CL-CURRENT: 426/15; 426/52, 435/200, 435/201, 435/209, 435/254.3, 435/254.4, 435/254.5, 435/254.6, 435/256.1, 435/256.3, 435/256.7, 536/23.2, 536/24.3

ABSTRACT:

A process for expressing extracellular .beta.-glucosidase in a filamentous fungus by expressing a fungal DNA sequence encoding enhanced, deleted or altered .beta.-glucosidase in a recombinant host microorganism is disclosed. Recombinant fungal cellulase compositions containing enhanced, deleted or altered expression of .beta.-glucosidase is also disclosed.

12 Claims, 17 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 13

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw. Desc | Image

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Search Results - Record(s) 41 through 60 of 104 returned.

☐ 41. Document ID: US 5985666 A

L5: Entry 41 of 104 File: USPT Nov 16, 1999

US-PAT-NO: 5985666
DOCUMENT-IDENTIFIER: US 5985666 A
**** See image for Certificate of Correction ****

TITLE: Forages

DATE-ISSUED: November 16, 1999

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Loiselle; Fran.cedilla.ois J.	Clive	IA		
Nichols; Scott E.	Johnston	IA		

US-CL-CURRENT: 435/419; 435/15, 435/193, 435/252.3, 435/278, 435/320.1, 435/410, 435/412, 536/123.12, 536/128, 536/23.2 , 800/298, 800/320

ABSTRACT:

A transgenic plant cell is provided containing a DNA molecule encoding an enzyme selected from the group consisting of fructosyltransferase, glucosyltransferase B, mutants of glucosyltransferase B, glucosyltransferase C, glucosyltransferase D, mutants of glucosyltransferase D and functional fragments of each enzyme. A transgenic plant regenerated from the plant cell is also provided. A method of improving the ensilability and the nutritional value of plants is also provided comprising introducing into the cells of the plant an expression cassette comprising the above DNA molecule operably linked to a promoter functional in the cells of the plant to yield transformed plant cells, and regenerating a transformed plant from the transformed cells. The transformed plants also provide improved digestibility in ruminants.

9 Claims, 0 Drawing figures
Exemplary Claim Number: 1

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw Desc | Image

☐ 42. Document ID: US 5985593 A

L5: Entry 42 of 104 File: USPT Nov 16, 1999

US-PAT-NO: 5985593
DOCUMENT-IDENTIFIER: US 5985593 A

TITLE: Compositions and methods for enzymatic decontamination

DATE-ISSUED: November 16, 1999

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Thornton; Charles G.	Gaithersburg	MD		
MacLellan; Kerry M.	Belair	MD		

US-CL-CURRENT: 435/29; 435/173.2, 435/173.7, 435/173.9, 435/253.1, 435/259, 435/34, 514/556

ABSTRACT:

The present invention is related to a method for the enzymatic decontamination of specimens as a means to control microbiological contamination. The compositions and methods of the invention are especially useful to eliminate non-gram negative contaminants of samples being processed for microbiological analysis.

117 Claims, 14 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 14

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC
Draw. Desc | Image

☐ 43. Document ID: US 5981835 A

L5: Entry 43 of 104 File: USPT Nov 9, 1999

US-PAT-NO: 5981835
DOCUMENT-IDENTIFIER: US 5981835 A

TITLE: Transgenic plants as an alternative source of lignocellulosic-degrading enzymes

DATE-ISSUED: November 9, 1999

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Austin-Phillips; Sandra	Madison	WI		
Burgess; Richard R.	Madison	WI		
German; Thomas L.	Hollandale	WI		
Ziegelhoffer; Thomas	Madison	WI		

US-CL-CURRENT: 800/278; 435/410, 435/414, 435/468, 435/469, 435/69.1, 435/70.1, 536/23.1, 536/23.74, 800/284, 800/317.3

ABSTRACT:

Transgenic plants which express cellulose-degrading enzymes, methods to make the transgenic plants, and methods to use the cellulose-degrading enzymes produced by the transgenic plants are disclosed.

17 Claims, 5 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 4

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC
Draw. Desc | Image

☐ 44. Document ID: US 5962297 A

L5: Entry 44 of 104 File: USPT Oct 5, 1999

US-PAT-NO: 5962297
DOCUMENT-IDENTIFIER: US 5962297 A

TITLE: Polypeptides having .beta.-fructofuranosidase activity

DATE-ISSUED: October 5, 1999

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Tsusaki; Keiji	Okayama			JP
Kubota; Michio	Okayama			JP
Chaen; Hiroto	Okayama			JP

US-CL-CURRENT: 435/200; 435/193, 536/23.1, 536/23.4

ABSTRACT:

Disclosed are a polypeptide having a .beta.-fructofuranosidase activity obtainable by the expression of a microbial gene, a DNA encoding the polypeptide, a transformant obtained by introducing the DNA into an appropriate host, a process for producing the polypeptide comprising culturing the transformant to produce the polypeptide and collecting the produced polypeptide from the culture, and a method for fructofuranosyl transfer comprising a step of reacting a fructofuranosyl donor with a fructofuranosyl acceptor in the presence of the polypeptide.

5 Claims, 1 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 6

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw. Desc | Image

☐ 45. Document ID: US 5952205 A

L5: Entry 45 of 104 File: USPT Sep 14, 1999

US-PAT-NO: 5952205
DOCUMENT-IDENTIFIER: US 5952205 A

TITLE: Process for processing sucrose into glucose and fructose

DATE-ISSUED: September 14, 1999

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Catani; Steven J.	Athens	GA		
Roth; Stephen A.	Gladwyne	PA		
McGuire; Edward J.	Furlong	PA		
Navia; Juan L.	Athens	GA		

US-CL-CURRENT: 435/101; 435/105, 435/193

ABSTRACT:

The present invention relates to a process of preparing commercial quantities of

glucose and/or fructose from sucrose, a process of preparing commercial quantities of glucose and a polyfructan from sucrose, a reactor for practicing same, a process of preparing commercial quantities of fructose and a polyglucan from sucrose and a reactor for practicing same.

12 Claims, 7 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 4

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw. Desc | Image

☐ 46. Document ID: US 5952204 A

L5: Entry 46 of 104 File: USPT Sep 14, 1999

US-PAT-NO: 5952204
DOCUMENT-IDENTIFIER: US 5952204 A

TITLE: .beta.-fructofuranosidase, its preparation and uses

DATE-ISSUED: September 14, 1999

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Nakada; Tetsuya	Okayama			JP
Chaen; Hiroto	Okayama			JP
Sugimoto; Toshiyuki	Okayama			JP

US-CL-CURRENT: 435/99; 435/100, 435/101, 435/72, 435/74, 435/97, 536/123, 536/123.1, 536/123.13, 536/124

ABSTRACT:

A .beta.-fructofuranosidase with a molecular weight of 49,000.+-.5,000 daltons on SDS-PAGE, an isoelectric point of 4.6.+-.0.5, an optimum pH of about 5.5-6.0, and an optimum temperature of about 50.degree. C. in the presence of calcium ion. The enzyme acts on saccharides with a .beta.-fructofuranosidic linkage and other substances including other saccharides, sugar alcohols, and alcohols to produce fructosyl-transferred saccharides in a relatively high yield.

11 Claims, 4 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 4

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw. Desc | Image

☐ 47. Document ID: US 5912146 A

L5: Entry 47 of 104 File: USPT Jun 15, 1999

US-PAT-NO: 5912146
DOCUMENT-IDENTIFIER: US 5912146 A

TITLE: Method for synthesis of nucleic acids

DATE-ISSUED: June 15, 1999

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Nishimura; Naoyuki	Kyoto			JP
Yoshida; Reiko	Kyoto			JP

US-CL-CURRENT: 435/91.1; 435/202, 435/91.2

ABSTRACT:

The present invention provides a method of nucleic acid synthesis capable of directly amplifying a gene of interest in a salivary sample without purifying DNAs from the sample.

According to the present invention, in a method of nucleic acid synthesis by mixing a salivary sample itself and a gene amplification reaction solution, and then subjecting them to an amplification reaction, the salivary sample is heat-treated or treated with a saccharide-degrading enzyme before the reaction. For example, a salivary sample was heat-treated at 0-40.degree. C. for 1 hour, subsequently added directly into a PCR reaction solution, and then subjected to a PCR. The result demonstrates that, as shown in FIG. 3, the amount of the PCR product increased according as the heat-treatment temperature was elevated, and as a consequence, the PCR product sufficient to be detected in the electrophoresis was produced in each of all cases using different amounts of saliva, by heat-treating the sample at 30.degree. C. or above.

11 Claims, 4 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 2

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw. Desc | Image

☐ 48. Document ID: US 5869705 A

L5: Entry 48 of 104 File: USPT Feb 9, 1999

US-PAT-NO: 5869705
DOCUMENT-IDENTIFIER: US 5869705 A

TITLE: Enzyme-activated 1,2-dioxetanes

DATE-ISSUED: February 9, 1999

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Bronstein; Irena Y.	Newton	MA		

US-CL-CURRENT: 549/510; 252/700, 568/818

ABSTRACT:

In an assay method in which a member of a specific binding pair is detected by means of an optically detectable reaction, the improvement wherein the optically detectable reaction includes the reaction, with an enzyme, of a dioxetane having the formula ##STR1## where T is a cycloalkyl or polycycloalkyl group bonded to the 4-membered ring portion of the dioxetane by a spiro linkage; Y is a fluorescent chromophore; X is H, alkyl, aryl, aralkyl, alkaryl, heteroalkyl, heteroaryl, cycloalkyl, cycloheteroalkyl, or enzyme-cleavable group; and Z is H or an enzyme-cleavable group, provided that at least one of X or Z must be an enzyme-cleavable group, so that the enzyme cleaves the enzyme-cleavable group from the dioxetane to form a negatively charged substituent

bonded to the dioxetane, the negatively charged substituent causing the dioxetane to decompose to form a luminescent substance that includes group Y of said dioxetane.

3 Claims, 0 Drawing figures
Exemplary Claim Number: 1

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC
Draw Desc | Image

☐ 49. Document ID: US 5837527 A

L5: Entry 49 of 104 File: USPT Nov 17, 1998

US-PAT-NO: 5837527
DOCUMENT-IDENTIFIER: US 5837527 A

TITLE: .beta.-fructofuranosidase its preparation and uses

DATE-ISSUED: November 17, 1998

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Nakada; Tetsuya	Okayama			JP
Chaen; Hiroto	Okayama			JP
Sugimoto; Toshiyuki	Okayama			JP

US-CL-CURRENT: 435/252.5; 435/100, 435/101, 435/200, 435/201, 435/832, 435/837, 435/96, 435/97, 435/99

ABSTRACT:

A .beta.-fructofuranosidase with a molecular weight of 49,000.+-.5,000 daltons on SDS-PAGE, an isoelectric point of 4.6.+-.0.5, an optimum pH of about 5.5-6.0, and an optimum temperature of about 50.degree. C. in the presence of calcium ion. The enzyme acts on saccharides with a .beta.-fructofuranosidic linkage and other substances including other saccharides, sugar alcohols, and alcohols to produce fructosyl-transferred saccharides in a relatively high yield.

3 Claims, 4 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 4

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC
Draw Desc | Image

☐ 50. Document ID: US 5792923 A

L5: Entry 50 of 104 File: USPT Aug 11, 1998

US-PAT-NO: 5792923
DOCUMENT-IDENTIFIER: US 5792923 A

TITLE: DNA sequences which lead to the formation of levans plasmids containing these sequences as well as a process for preparing transgenic plants

DATE-ISSUED: August 11, 1998

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Rober; Manuela	Berlin			DE
Geier; Gebhard	Heidelberg/Dossenheim			DE
Geider; Klaus	Sandhausen			DE
Willmitzer; Lothar	Berlin			DE

US-CL-CURRENT: 800/284; 435/101, 435/103, 435/200, 435/210, 435/211, 435/320.1, 435/419, 435/69.1, 536/23.7, 800/298, 800/317.2, 800/317.3

ABSTRACT:

There are described DNA sequences, which lead to the formation of levans, plasmids containing these DNA sequences, as well as a process using these plasmids for preparing transgenic plants with levan accumulation.

32 Claims, 5 Drawing figures
Exemplary Claim Number: 1,4
Number of Drawing Sheets: 5

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC
Draw. Desc | Image

☐ 51. Document ID: US 5767271 A

L5: Entry 51 of 104 File: USPT Jun 16, 1998

US-PAT-NO: 5767271
DOCUMENT-IDENTIFIER: US 5767271 A

TITLE: Lignan glycosides and hydroxy radical scavengers

DATE-ISSUED: June 16, 1998

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Kuriyama; Kenichi	Yokohama			JP
Murui; Tateo	Tokyo			JP

US-CL-CURRENT: 536/128; 252/404, 549/435

ABSTRACT:

Lignan glycosides having a hydroxy radical scavenging activity and represented by the formula: ##STR1## where R is a glycosyl residue selected from the group consisting of glucose, galactosr and fructose, m is an integer of 1 to 3, and n is 0 or 1.

13 Claims, 7 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 3

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC
Draw. Desc | Image

☐ 52. Document ID: US 5753469 A

L5: Entry 52 of 104 File: USPT May 19, 1998

US-PAT-NO: 5753469
DOCUMENT-IDENTIFIER: US 5753469 A

TITLE: .beta.-fructofuranosidase, its preparation and uses

DATE-ISSUED: May 19, 1998

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Nakada; Tetsuya	Okayama			JP
Chaen; Hiroto	Okayama			JP
Sugimoto; Toshiyuki	Okayama			JP

US-CL-CURRENT: 435/99; 435/100, 435/101, 435/200, 435/201, 435/96, 435/97

ABSTRACT:

A .beta.-fructofuranosidase with a molecular weight of 49,000.+-.5,000 daltons on SDS-PAGE, an isoelectric point of 4.6.+-.0.5, an optimum pH of about 5.5-6.0, and an optimum temperature of about 50.degree. C. in the presence of calcium ion. The enzyme acts on saccharides with a .beta.-fructofuranosidic linkage and other substances including other saccharides, sugar alcohols, and alcohols to produce fructosyl-transferred saccharides in a relatively high yield.

16 Claims, 4 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 4

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw Desc | Image

☐ 53. Document ID: US 5712107 A

L5: Entry 53 of 104 File: USPT Jan 27, 1998

US-PAT-NO: 5712107
DOCUMENT-IDENTIFIER: US 5712107 A

TITLE: Substitutes for modified starch and latexes in paper manufacture

DATE-ISSUED: January 27, 1998

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Nichols; Scott Edward	Johnston	IA		

US-CL-CURRENT: 435/15; 162/100, 435/170, 435/18, 435/278, 435/4, 435/885, 435/886, 536/1.11, 536/123.12, 536/124, 536/128, 536/18.5

ABSTRACT:

The present invention provides methods of making paper utilizing glucans, produced by the glucosyltransferase C enzyme of the species Streptococcus mutans, instead of modified starches. The present glucans are functionally similar to the hydroxethyl modified starch and are particularly useful in the coating step of paper manufacture. The present glucans also exhibit thermoplastic properties and impart gloss to the paper during the coating step.

20 Claims, 0 Drawing figures
Exemplary Claim Number: 1

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC
Draw Desc | Image

☐ 54. Document ID: US 5672482 A

L5: Entry 54 of 104 File: USPT Sep 30, 1997

US-PAT-NO: 5672482
DOCUMENT-IDENTIFIER: US 5672482 A

TITLE: Method for purifying cyclic inulooligosaccharide

DATE-ISSUED: September 30, 1997

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Kushibe; Sachiko	Tokyo			JP
Tamura; Masao	Tokyo			JP

US-CL-CURRENT: 435/15; 435/18, 435/252.31, 435/29, 435/4, 435/74, 536/1.11, 536/123.1, 536/124, 536/127, 536/4.1

ABSTRACT:

An exo-enzyme having an ability to cut .beta.-(2.fwdarw.1) fructoside bond or a microorganism which produces the enzyme is allowed to act on a saccharide solution containing cyclic inulooligosaccharide in which fructose molecules are bonded through .beta.-(2.fwdarw.1) bond in a cyclic configuration, and other saccharides such as monosaccharide, disaccharide, linear oligosaccharide and inulin, and then the cyclic inulooligosaccharide is collected from an obtained saccharide solution. Thus cyclic inulooligosaccharide can be purified inexpensively at a high yield without using any solvent.

6 Claims, 0 Drawing figures
Exemplary Claim Number: 1

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC
Draw Desc | Image

☐ 55. Document ID: US 5665579 A

L5: Entry 55 of 104 File: USPT Sep 9, 1997

US-PAT-NO: 5665579
DOCUMENT-IDENTIFIER: US 5665579 A

TITLE: Invertase genes and uses thereof

DATE-ISSUED: September 9, 1997

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Fitzmaurice; Leona C.	San Diego	CA		
Mirkov; T. Erik	San Diego	CA		
Elliott; Kathryn J.	San Diego	CA		
Butler; William Owen	San Diego	CA		
Konno; Yoshihiro	Onishi			JP
Dickinson; Craig Duane	San Diego	CA		

US-CL-CURRENT: 800/284; 435/201, 435/320.1, 435/411, 536/23.1, 536/23.2, 536/23.6, 536/24.1, 536/24.5, 800/287

ABSTRACT:

Transgenic plants that are modified to produce fruits that have.altered levels of soluble solids compared to non-transgenic species of the same species are provided. The transgenic plants are modified by introduction of DNA constructs that encode invertase operatively linked to DNA encoding regulatory regions that direct transcription of the DNA encoding invertase and to DNA encoding sequences that direct proper processing of the invertase through the secretory pathways of the plant and targeting of the invertase to the vacuole.

In particular, DNA constructs encoding tomato plant vacuolar invertase in operative linkage with a developmentally regulated promoter region are provided. Preferred regulatory and structural DNA is obtained from genomic DNA clones and cDNA clones encoding tomato fruit vacuolar invertases from the commercial tomato plant, Lycopersicon esculentum, and wild tomato plant, Lycopersicon pimpinellifolium.

Probes derived from the genomic DNA and cDNA, antibodies specific for tomato fruit invertase, and uses therefore, are also provided.

17 Claims, 14 Drawing figures
Exemplary Claim Number: 17
Number of Drawing Sheets: 8

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw. Desc | Image

☐ 56. Document ID: US 5658773 A

L5: Entry 56 of 104 File: USPT Aug 19, 1997

US-PAT-NO: 5658773
DOCUMENT-IDENTIFIER: US 5658773 A

TITLE: Tomato acid invertase gene

DATE-ISSUED: August 19, 1997

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Bennett; Alan B.	Davis	CA		
Klann; Ellen M.	Davis	CA		

US-CL-CURRENT: 800/263; 435/6, 800/267, 800/284, 800/286

ABSTRACT:

The present invention relates generally to methods for modifying the sucrose content of fruit. In particular, it relates to methods for increasing fruit sucrose content by inhibiting the expression of acid invertase. Additionally, it relates to methods for

decreasing fruit sucrose content and increasing fruit hexose content by over expressing acid invortase.

9 Claims, 0 Drawing figures
Exemplary Claim Number: 1

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC
Draw. Desc | Image

☐ 57. Document ID: US 5605795 A

L5: Entry 57 of 104 File: USPT Feb 25, 1997

US-PAT-NO: 5605795
DOCUMENT-IDENTIFIER: US 5605795 A
**** See image for Certificate of Correction ****

TITLE: Assays using chemiluminescent, enzymatically cleavable substituted 1,2-dioxetanes and kits therefor

DATE-ISSUED: February 25, 1997

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Bronstein; Irena Y.	Newton	MA		

US-CL-CURRENT: 435/6; 435/12, 435/15, 435/16, 435/17, 435/18, 435/19, 435/20, 435/21, 435/22, 435/23, 435/24, 435/25, 435/26, 435/27, 435/28, 435/7.1, 435/8, 436/501, 549/212, 549/220, 549/221, 549/222

ABSTRACT:

Dioxetane compounds reactable with an enzyme to release optically detectable eneregy are disclosed. These compounds have the formula: ##STR1## wherein T is a cycloalkyl group or a fused polycyclo-alkylidene group bonded to the dioxetane ring through a spiro linkage; Y is a fluorescent chromophore capable of absorbing energy to form an excited energy state from which it emits optically detectable energy to return to its original energy state; X is hydrogen or an alkyl, aryl, aralkyl, alkaryl, heteroalkyl, heteroaryl, cycloalkyl or cycloheteroalkyl group, or an enzyme-cleavable group containing a bond cleavable by an enzyme to yield an electron-rich moiety bonded to the dioxetane ring, Z is hydrogen, hydroxyl or an enzyme-cleavable group containing a bond cleavable by an enzyme to yield an electron-rich moiety bonded to the dioxetane ring, at least one of X and Z being an enzyme-cleavable group, and T also includes a substituent which enhances the solubility of the dioxetane in aqueous solution, or a substituent which facilitates bonding of the dioxetane to a membrane, film, bead, polymer or polymerizable group, or a substituent which enhances the kinetics of the dioxetane enzyme degradation.

63 Claims, 8 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 7

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC
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☐ 58. Document ID: US 5576428 A

L5: Entry 58 of 104 File: USPT Nov 19, 1996

US-PAT-NO: 5576428
DOCUMENT-IDENTIFIER: US 5576428 A

TITLE: Invertase gene(s) and uses thereof

DATE-ISSUED: November 19, 1996

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Butler; William O.	San Diego	CA		
Konno; Yoshihiro	Gunma			JP
Dickinson; Craig D.	San Diego	CA		
Fitzmaurice; Leona C.	San Diego	CA		
Mirkov; Theodore E.	San Diego	CA		
Elliott; Kathryn J.	San Diego	CA		

US-CL-CURRENT: 536/24.1; 435/69.1, 536/23.6

ABSTRACT:

Transgenic plants that are modified to produce fruits that have altered levels of soluble solids compared to non-transgenic plants of the same species are provided. The transgenic plants are prepared by introducing into plants DNA constructs that encode invertase operatively linked to DNA encoding regulatory regions that direct transcription of the DNA encoding invertase and operatively linked to DNA encoding amino acids that direct proper processing of the invertase through the secretory pathways of the plant and targeting of the invertase to the vacuole.

In particular, DNA constructs encoding tomato plant vacuolar invertase in operative linkage with a developmentally regulated promoter region are provided. Preferred regulatory and structural DNA is obtained from genomic DNA clones and cDNA clones encoding tomato fruit vacuolar invertases from the commercial tomato plant, Lycopersicon esculentum, and wild tomato plant, Lycopersicon pimpinellifolium.

Probes derived from the genomic DNA and cDNA, antibodies specific for tomato fruit invertase, and uses therefor, are also provided.

13 Claims, 0 Drawing figures
Exemplary Claim Number: 1

59. Document ID: US 5559010 A

L5: Entry 59 of 104 File: USPT Sep 24, 1996

US-PAT-NO: 5559010
DOCUMENT-IDENTIFIER: US 5559010 A

TITLE: Nutrient regulated gene expression systems

DATE-ISSUED: September 24, 1996

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Klionsky; Daniel J.	Davis	CA		
Destruelle; Monika	Freiburg			DE
Holzer; Helmut	Freiburg			DE

US-CL-CURRENT: 435/69.1; 435/254.2, 435/320.1, 536/24.1

ABSTRACT:

The invention provides methods and compositions for expressing a recombinant gene in eukaryotic cells, especially fungi, preferably yeast. The invention provides transcriptional regulating elements having a novel nucleotide sequence which are capable of trancriptionally regulating the expression of a cis joined gene, typically in response to the availability of certain nutrients to the host cell. Preferred regulatory elements are responsive to nutrient depletion, particulary glucose, ethanol, phosphate or a nitrogen source. Nucleic acid constructs comprising such regulatory elements operably linked to recombinant genes, cells comprising such regulatory elements, and methods of producing recombinant protein in such cells are also provided. The invention discloses regulatory elements which are induced through the ras gene product. Accordingly, the disclosed expression systems also provide a convenient marker for ras gene function. Finally, the invention also provides methods and compositions for the diagnosis and treatment of fungal infection. In particular, the invention provides gp37-derived peptides encoded by YGP1 and gp37- selective binding agents, such as antibodies.

10 Claims, 16 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 16

☐ 60. Document ID: US 5387757 A

L5: Entry 60 of 104 File: USPT Feb 7, 1995

US-PAT-NO: 5387757
DOCUMENT-IDENTIFIER: US 5387757 A

TITLE: Tomatoes with reduced expression of polygalacturonase

DATE-ISSUED: February 7, 1995

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Bridges; Ian G.	Slater	IA		
Schuch; Wolfgang W.	Crowthorne			GB2
Grierson; Donald	Shepshed			GB2

US-CL-CURRENT: 800/317.4; 435/320.1, 536/23.6

ABSTRACT:

Fruit, especially tomatoes, having lowered expression of fruit-softening enzymes caused by antisense gene expression, and seeds therefrom.

4 Claims, 8 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 7

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw. Desc | Image

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Terms	Documents
l4 and (gene or nucleic acid or dna or cdna)	104

Display Format: - Change Format

Previous Page Next Page

WEST

Generate Collection | Print

Search Results - Record(s) 61 through 80 of 104 returned.

☐ 61. Document ID: US 5310647 A

L5: Entry 61 of 104 File: USPT May 10, 1994

US-PAT-NO: 5310647
DOCUMENT-IDENTIFIER: US 5310647 A

TITLE: Detection and measurement of destructive and polymer forming enzymes by colloidal flocculation

DATE-ISSUED: May 10, 1994

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Kerschensteiner; Daniel A.	Chester County	PA		

US-CL-CURRENT: 435/4; 435/23, 435/962, 436/811

ABSTRACT:

The change between a dispersed state and a flocculated state of a colloidal agent (e.g. Congo Rubin, colloidal gold) is used to provide sensitive visual detection and optionally assay of enzyme in a sample. The test cell includes a substrate for the enzyme, and, depending on the action of the enzyme, polymer which protects the colloid from electrolyte-induced flocculation is either formed or destroyed by the test reaction. In a test for a hydrolytic enzyme (e.g. a protease) the colloid loses protection and flocculates. In a test for a polymer-forming enzyme, the colloid gains protection and is prevented from flocculating by added electrolyte, or alternatively, depending on the polymer's behavior, becomes more sensitive to the flocculating action of the added electrolyte. The measurement may be quantitated using an instrumental monitor. The test uses a natural substrate for the enzyme to be assayed (e.g., gelatin for the gelatinase class of enzymes) and may achieve rapid speed. The test may be performed using a biologically-derived sample for diagnostically relevant purposes, e.g. to detect an enzyme indicative of periodontal disease. A kit for performing the test is also disclosed.

7 Claims, 0 Drawing figures
Exemplary Claim Number: 1

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw. Desc | Image

☐ 62. Document ID: US 5242805 A

L5: Entry 62 of 104 File: USPT Sep 7, 1993

US-PAT-NO: 5242805
DOCUMENT-IDENTIFIER: US 5242805 A

TITLE: Long wavelength lipophilic fluorogenic glycosidase substrates

DATE-ISSUED: September 7, 1993

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Naleway; John J.	Eugene	OR		
Zhang; Yu-zhong	Eugene	OR		
Haugland; Richard P.	Eugene	OR		

US-CL-CURRENT: 435/18; 435/4, 436/3, 436/35, 536/123.13, 544/102

ABSTRACT:

The claimed invention relates to a substrate for evaluating glycosidic enzymes comprising a resorufin derivative of the general formula: ##STR1## wherein Gly is a carbohydrate bonded to resorufin by a glycosidic linkage; where at least one of substituents R.sub.1, R.sub.2, R.sub.4, R.sub.6, R.sub.8, and R.sub.9 is a lipophilic residue of the formula --L(CH.sub.2).sub.n CH.sub.3, where n is greater than 3 and less than 22, and where L is a methylene --CH.sub.2 --, an amide --NHCO--, a sulfonamide --NHSO.sub.2 --, a carboxamide --CONH--, a carboxylate ester --COO--, a urethane --NHCOO--, a urea --NHCONH--, or a thiourea --NHCSNH--; and

where the remainder of substituents R.sub.1, R.sub.2, R.sub.4, R.sub.6, R.sub.8, and R.sub.9, which may be the same or different, are hydrogen, halogen, or other lipophilic residues, which may be the same or different, containing from about 1 to about 22 carbon atoms of the formula --L'(CH.sub.2).sub.m CH.sub.3, where m is less than 22, and where L' is a methylene --CH.sub.2 --, an amide --NHCO--, a sulfonamide --NHSO.sub.2 --, a carboxamide --CONH--, a carboxylate ester --COO--, a urethane --NHCOO--, a urea --NHCONH--, or a thiourea --NHCSNH--.

A preferred embodiment of the invention is a non-fluorescent substrate specifically hydrolyzable by a glycosidase inside a cell to yield, after greater than about 2 minutes, an orange to red fluorescent detection product which is retained inside a viable cell more than about 2 hours at greater than about 15.degree. C. and which is non-toxic to the cell. The substrates are used for evaluating a glycosidic enzyme in living plant or animal cells whether the enzyme is present endogenously; present as a result of manipulation of the cell's genome, or added to the cell exogenously, such as by covalently binding the enzyme to a protein to form an enzyme-protein complex that enters the cell.

20 Claims, 2 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 2

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw. Desc | Image

☐ 63. Document ID: US 5220005 A

L5: Entry 63 of 104 File: USPT Jun 15, 1993

US-PAT-NO: 5220005
DOCUMENT-IDENTIFIER: US 5220005 A
**** See image for Certificate of Correction ****

TITLE: Substituted adamantyl dioxetanes

DATE-ISSUED: June 15, 1993

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Bronstein; Irena Y.	Newton	MA		

US-CL-CURRENT: 536/26.21; 536/120, 536/18.1, 536/26.26, 536/26.7, 536/27.3, 536/4.1, 549/221, 549/332, 549/510

ABSTRACT:

Dioxetane compounds reactable with an enzyme to release optically detectable eneregy are disclosed. These compounds have the formula: ##STR1## wherein T is a carboxylic acid or methoxy substituted adamantyl group bound to the ring through a spiro bond, Y is phenoxy or napthyloxy and X is methoxy, ethoxy or propoxy. Z is an enzyme cleavable group such that when cleaved by an enzyme, an electron rich moiety is left bound to the dioxetane ring.

4 Claims, 7 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 7

☐ 64. Document ID: US 5208148 A

L5: Entry 64 of 104 File: USPT May 4, 1993

US-PAT-NO: 5208148
DOCUMENT-IDENTIFIER: US 5208148 A
**** See image for Certificate of Correction ****

TITLE: Lipophilic fluorescent glycosidase substrates

DATE-ISSUED: May 4, 1993

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Haugland; Richard P.	Eugene	OR		
Naleway; John J.	Eugene	OR		
Zhang; Yu-zhong	Eugene	OR		

US-CL-CURRENT: 435/14; 435/19, 435/7.9, 435/7.93, 536/18.1, 536/4.1

ABSTRACT:

The claimed invention relates to a substrate for evaluating glycosidic enzymes comprising a fluorescein derivative of the general formula: ##STR1## wherein GlyX is a carbohydrate bonded to fluorescein by a glycosidic linkage;

Y, which may be the same as GlyX or different, is an alkyl ether, an ester, or a glycosidically linked carbohydrate;

R is a lipophilic residue containing from 1 to 21 carbon atoms; and

L links the R residue to fluorescein.

A preferred embodiment of the invention is a non-fluorescent substrate specifically hydrolyzable by a glycosidase inside a cell to yield, after greater than about 2 minutes, a fluorescent detection product excitable at between about 460 nm and 550 nm and with fluorescence observable at an emission wavelength longer than the excitation wavelength, which fluorescent detection product is retained inside a viable cell more than about 2 hours at greater than about 15.degree. C. and which is non-toxic to the cell. A further embodiment of the invention is a method for evaluating a glycosidic enzyme in living plant or animal cells whether the enzyme is present endogenously; present as a result of manipulation of the cell's genome, or added to the cell

exogenously, such as by covalently binding the enzyme to a protein to form an enzyme-protein complex that enters the cell.

20 Claims, 9 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 6

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw. Desc | Image

☐ 65. Document ID: US 5089630 A

L5: Entry 65 of 104 File: USPT Feb 18, 1992

US-PAT-NO: 5089630
DOCUMENT-IDENTIFIER: US 5089630 A

TITLE: Dioxetanes for use in assays

DATE-ISSUED: February 18, 1992

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Bronstein; Irena Y.	Newton	MA	02158	
Edwards; Brooks	Cambridge	MA	02139	
Kricka; Larry	Berwyn	PA	19312	
Voyta; John	North Reading	MA	01864	

US-CL-CURRENT: 549/220; 536/18.1, 548/113, 549/332

ABSTRACT:

A dioxetane that includes a fluorescent chromophore spiro-bound at the 4-carbon of the dioxetane. The dioxetane has the formula ##STR1## where X is CR.sub.7 R.sub.8, O, S, or N-R (where each R.sub.7, R.sub.8, and R, independently, is H, alkyl, heteroalkyl, aryl, heteroaryl, cycloalkyl, cycloheteroalkyl, aralkyl, alkaryl, or an enzyme cleavable group), and each R.sub.1, R.sub.2, R.sub.3, R.sub.4, R.sub.5, andR.sub.6, independently, is H, an electron-withdrawing group, an electron-donating group, heteroaryl, or an enzyme cleavable group, or groups R.sub.1 -R.sub.6 together form a ring, and T is a substituted or unsubstituted aryl, polyaryl, cycloalkylidene or polycycloalkylidene group spiro-bound at the 3-carbon of the dioxetane.

The dioxetane can be decomposed by direct cleavage of the dioxetane 0--0 bond or by cleavage of an enzyme cleavable group bonded to the dioxetane to form a luminescent substance that includes the coumarin portion of the dioxetane.

The dioxetanes are used in an assay to detect a member of a specific binding pair or an enzyme.

31 Claims, 0 Drawing figures
Exemplary Claim Number: 1

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw. Desc | Image

☐ 66. Document ID: US 4978614 A

L5: Entry 66 of 104 File: USPT Dec 18, 1990

US-PAT-NO: 4978614
DOCUMENT-IDENTIFIER: US 4978614 A

TITLE: Method of detecting a substance using enzymatically-induced decomposition of dioxetanes

DATE-ISSUED: December 18, 1990

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Bronstein; Irena Y.	Newton	MA		

US-CL-CURRENT: 435/21; 435/125, 435/18, 435/19, 435/6, 435/810

ABSTRACT:

In an assay method in which a member of a specific binding pair is detected by means of an optically detectable reaction, the improvement wherein the optically detectable reaction includes the reaction, with an enzyme, of a dioxetane having the formula ##STR1## where T is a cycloalkyl or polycycloalkyl group bonded to the 4-membered ring portion of the dioxetane by a spiro linkage; Y is a fluorescent chromophore; X is hydrogen, alkyl, aryl, aralkyl, alkaryl, heteroalkyl, heteroaryl, cycloalkyl, cycloheteroalkyl, or enzyme-cleavable group; and Z is hydrogen or an enzyme-cleavable group, provided that at least one of X or Z must be an enzyme-cleavable group, so that the enzyme cleaves the enzyme-cleavable group from the dioxetane to form a negatively charged substituent bonded to the dioxetane, the negatively charged substituent causing the dioxetane to decompose to form a luminescent substance that includes group Y of said dioxetane.

66 Claims, 19 Drawing figures
Exemplary Claim Number: 1,31
Number of Drawing Sheets: 12

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw. Desc | Image

☐ 67. Document ID: US 4962026 A

L5: Entry 67 of 104 File: USPT Oct 9, 1990

US-PAT-NO: 4962026
DOCUMENT-IDENTIFIER: US 4962026 A

TITLE: Process for the production of panosyl derivatives

DATE-ISSUED: October 9, 1990

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Keng; Jiun G.	Darien	IL		

US-CL-CURRENT: 435/98; 435/202, 435/74, 435/99

ABSTRACT:

This invention relates to an in vitro enzymatic process for the preparation of compounds containing the panosyl group. The panosyl group is transferred from a panosyl donor to a panosyl acceptor by means of an enzyme having panosyl transferase activity.

2 Claims, 0 Drawing figures
Exemplary Claim Number: 1

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC
Draw. Desc | Image

☐ 68. Document ID: US 4921757 A

L5: Entry 68 of 104 File: USPT May 1, 1990

US-PAT-NO: 4921757
DOCUMENT-IDENTIFIER: US 4921757 A
**** See image for Certificate of Correction ****

TITLE: System for delayed and pulsed release of biologically active substances

DATE-ISSUED: May 1, 1990

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Wheatley; Margaret A.	Arlington	MA		
Langer; Robert S.	Somerville	MA		
Eisen; Herman N.	Waban	MA		

US-CL-CURRENT: 428/402.2; 264/4.3, 424/418, 424/419, 424/450, 424/485, 424/488, 424/94.3, 436/829, 514/963, 514/965

ABSTRACT:

A system for controlled release both in vivo and in vitro of entrapped substances, either at a constant rate over a period of time or in discrete pulses, is disclosed. Biologically active substances, such as drugs, hormones, enzymes, genetic material, antigens including viruses, vaccines, or inorganic material such as dyes and nutrients, are entrapped in liposomes which are protected from the biological environment by encapsulation within semi-permeable microcapsules or a permeable polymeric matrix. Release of the entrapped substance into the surrounding environment is governed by the permeability of both the liposome and surrounding matrix to the substance. Permeability of the liposome is engineered by modifying the composition and method for making the liposomes, thereby producing liposomes which are sensitive to a specific stimuli such as temperature, pH, or light; or by including a phospholipase within some or all of the liposomes or the surrounding matrix; or by destabilizing the liposome to break down over a period of time; or by any combination of these features.

4 Claims, 7 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 3

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC
Draw. Desc | Image

☐ 69. Document ID: US 4900556 A

L5: Entry 69 of 104 File: USPT Feb 13, 1990

US-PAT-NO: 4900556
DOCUMENT-IDENTIFIER: US 4900556 A

TITLE: System for delayed and pulsed release of biologically active substances

DATE-ISSUED: February 13, 1990

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Wheatley; Margaret A.	Arlington	MA		
Langer; Robert S.	Somerville	MA		
Eisen; Herman N.	Waban	MA		

US-CL-CURRENT: 424/450; 514/963

ABSTRACT:

A system for controlled release both in vivo and in vitro of entrapped substances, either at a constant rate over a period of time or in discrete pulses, is disclosed. Biologically active substances, such as drugs, hormones, enzymes, genetic material, antigens including viruses, vaccines, or inorganic material, such as dyes and nutrients, are entrapped in liposomes which are protected from the biological environment by encapsulation within semi-permeable microcapsules. Release of the entrapped substance into the surrounding environment is governed by the permeability of both the liposome and microcapsule walls to the substance. Permeability of the liposome is engineered by modifying the composition and method for making the liposomes, thereby producing liposomes which are sensitive to a specific stimuli such as temperature, pH, or light; or by including a phospholipase within some or all of the liposomes or the microcapsule; or by destabilizing the liposomes to break down over a period of time; or by any combination of these features.

24 Claims, 7 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 3

☐ 70. Document ID: US 4324860 A

L5: Entry 70 of 104 File: USPT Apr 13, 1982

US-PAT-NO: 4324860
DOCUMENT-IDENTIFIER: US 4324860 A

TITLE: Lactate dehydrogenase mutants of Streptococcus mutans

DATE-ISSUED: April 13, 1982

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Hillman; Jeffrey D.	Jamaica Plain	MA		

US-CL-CURRENT: 435/444; 435/253.4, 435/36, 435/441, 435/445, 435/448, 435/885

ABSTRACT:

Mutant strains have been isolated from Streptococcus mutans strain BHT-2(str) which are characterized by a single point mutation in the structural gene for the enzyme, L(+) lactate dehydrogenase, this enzyme being normally responsible for lactic acid production by this bacterium. Streptococcus mutans is believed to be a principal pathogen in dental caries, a disease characterized by the dissolution of the mineral portion of the tooth caused by acid resulting from the interaction of bacteria on the

tooth surface with carbohydrates. The mutant strains of the invention will be found useful as prototype nonvirulent effector strains in controlling the incidence and severity of dental caries.

15 Claims, 0 Drawing figures
Exemplary Claim Number: 1,7

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw. Desc | Image

☐ 71. Document ID: US 4133875 A

L5: Entry 71 of 104 File: USPT Jan 9, 1979

US-PAT-NO: 4133875
DOCUMENT-IDENTIFIER: US 4133875 A

TITLE: Method of controlling dental caries with streptococcus mutans mutant strains

DATE-ISSUED: January 9, 1979

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Hillman; Jeffrey D.	Jamaica Plain	MA		

US-CL-CURRENT: 424/93.44; 424/50

ABSTRACT:

Mutant strains have been isolated from Streptococcus mutans strain BHT-2(str) which are characterized by a single point mutation in the structural gene for the enzyme, L(+) lactate dehydrogenase, this enzyme being normally responsible for lactic acid production by this bacterium. Streptococcus mutans is believed to be a principal pathogen in dental caries, a disease characterized by the dissolution of the mineral portion of the tooth caused by acid resulting from the interaction of bacteria on the tooth surface with carbohydrates. The mutant strains of the invention will be found useful as prototype nonvirulent effector strains in controlling the incidence and severity of dental caries.

11 Claims, 0 Drawing figures
Exemplary Claim Number: 1

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw. Desc | Image

☐ 72. Document ID: US 4066512 A

L5: Entry 72 of 104 File: USPT Jan 3, 1978

US-PAT-NO: 4066512
DOCUMENT-IDENTIFIER: US 4066512 A

TITLE: Biologically active membrane material

DATE-ISSUED: January 3, 1978

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Lai; Chung Jung	Watertown	MA		
Goldin; Stanley M.	Norwood	MA		

US-CL-CURRENT: 435/10; 435/14, 435/175, 435/177, 435/26, 435/287.2, 435/287.9, 435/288.2, 435/4, 524/17, 530/356, 530/373, 530/391.1, 530/405, 530/816

ABSTRACT:

A composite membrane structure for immobilizing biologically active materials, such as enzymes, is formed by coating a microporous polymeric membrane with a thin layer of an inert proteinaceous material, such as zein or collagen, so that the resultant coated membrane retains intercommunicating capillary pores that extend through its structure. Immobilization of a biologically active material is carried out by contacting the coated membrane with the biologically active material in solution and drying. Biologically active materials immobilized on the membrane can be used to perform biochemical reactions and are useful in carrying out tests for glucose and uric acid.

18 Claims, 5 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 1

☐ 73. Document ID: US 3972776 A

L5: Entry 73 of 104 File: USPT Aug 3, 1976

US-PAT-NO: 3972776
DOCUMENT-IDENTIFIER: US 3972776 A
**** See image for Certificate of Correction ****

TITLE: Preparation of protein membranes containing microbial cells

DATE-ISSUED: August 3, 1976

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Vieth; Wolf R.	Belle Mead	NJ		
Wang; Shaw S.	Somerset	NJ		
Saini; Rakesh	New Brunswick	NJ		

US-CL-CURRENT: 435/177; 435/886

ABSTRACT:

Enzymatically active Protein-whole microbial cell complex membranes suitable for effecting enzymatic reactions are prepared by forming a dispersion containing synthetic polypeptide or natural protein macromolecules and whole microbial cells, casting a membrane from the dispersion and drying the membrane. In an alternative embodiment, the membranes are formed by electro-codeposition from a dispersion containing the macromolecules and cells. It is desirable to pre-treat the microbial cells to destroy proteolytic activity of the cells to prevent the cells from autolyzing and from destroying the membrane.

6 Claims, 0 Drawing figures
Exemplary Claim Number: 1

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC
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☐ 74. Document ID: JP 2000350583 A

L5: Entry 74 of 104 File: JPAB Dec 19, 2000

PUB-NO: JP02000350583A
DOCUMENT-IDENTIFIER: JP 2000350583 A
TITLE: LOW TEMPERATURE EXPRESSING FRUCTAN-METABOLIZED ENZYME GENE

PUBN-DATE: December 19, 2000

INVENTOR-INFORMATION:

NAME	COUNTRY
KAWAKAMI, AKIRA	
KURIKI, MIDORI	
TERAMI, FUMIHIRO	

US-CL-CURRENT: 114/20.1; 194/227, 220/612, 439/673, 454/3
INT-CL (IPC): C12 N 15/09; C12 N 9/10; C12 N 9/26; C12 Q 1/68; A01 H 5/00; A61 P 1/02; A61 P 1/14; A61 K 31/715

ABSTRACT:

PROBLEM TO BE SOLVED: To obtain a gene which contains a base sequence coding for a specific amino acid sequence, gives a plant the cold resistance, and allows the production of a fructooligosaccharide useful for the human health such as the prevention of tooth decay and the promotion of growth of an enteric bifidobacterium.

SOLUTION: This gene contains the base sequence coding for the amino acid sequence shown by the formula, gives a plant the cold resistance. This wheat sucrose:fructan 6-fructosyl transferase gene consists of 1848 bases, codes for a protein consisting of 616 amino acids, has a homology at 93% (at an amino acid sequence level) to a homologous gene derived from barley, has an enzymatic function at a low temperature, gives a plant the cold resistance by transducing into a plant, and allows synthesizing a fructooligosaccharide useful for the human health.

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Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC
Draw. Desc | Image

☐ 75. Document ID: JP 10066586 A

L5: Entry 75 of 104 File: JPAB Mar 10, 1998

PUB-NO: JP410066586A
DOCUMENT-IDENTIFIER: JP 10066586 A
TITLE: POLYPEPTIDE HAVING BETA-FRUCTOFURANOSIDASE ACTIVITY

PUBN-DATE: March 10, 1998

INVENTOR-INFORMATION:

NAME	COUNTRY
TSUSAKI, KEIJI	
KUBOTA, MICHIO	
CHAEN, HIROTO	

INT-CL (IPC): C12 N 15/09; C07 H 21/04; C07 K 14/32; C12 N 1/21; C12 N 9/10; C12 N 9/24

ABSTRACT:

PROBLEM TO BE SOLVED: To obtain a new polypeptide containing at least a partial amino acid sequence and having β-fructofuranosidase activity, and to be used for producing fructofuranosyl transferred products useful in foods, cosmetics, medicines, etc., by expressing a microorganism-derived gene.

SOLUTION: This new polypeptide, which contains part or the whole of amino acid sequences of formula I and formula II as partial amino acid sequences and has β-fructofuranosidase activity, is obtained by expressing a microorganism-derived gene, and useful for e.g. producing fructofuranosyl transferred products each advantageously usable through formulation, as a sweetener, gustatoriness improver, stabilizer, bifidobacterium proliferation promoter, mineral absorbent, in foods and beverages, cosmetics, medicines, etc., This new polypeptide is obtained by the following process: a chromosome DNA is separated from Bacillus sp. V-230 strain (FERM BP-5054), the gene for the polypeptide having β-fructofuranosidase activity is cloned by a conventional means, and the resultant cloned gene is then integrated into a vector and expressed in host cells.

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☐ 76. Document ID: WO 240687 A2

L5: Entry 76 of 104 File: EPAB May 23, 2002

PUB-NO: WO000240687A2
DOCUMENT-IDENTIFIER: WO 240687 A2
TITLE: TISSUE SPECIFIC PROMOTERS

PUBN-DATE: May 23, 2002

INVENTOR-INFORMATION:

NAME	COUNTRY
HEHL, REINHARD	DE
KLOOS, DOROTHEE	DE
STAHL, DIETMAR JUERGEN	DE

INT-CL (IPC): C12 N 15/82; C12 N 1/21; A01 H 5/00; A01 H 5/10
EUR-CL (EPC): C12N015/82

ABSTRACT:

CHG DATE=20020702 STATUS=O>The invention relates to tissue specific promoters which can be used in plants for one or more of the following purposes: a. altering carbohydrate metabolism b. preventing memory substance loss c. expression of an invertase inhibitor d. expression of a fructosyl transferase e. expression of a levan sucrase f. expression of genes coding for transported proteins for N compounds g. expression of characteristics which increase resistance/tolerance with respect to pathogens.

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC
Draw. Desc | Image

☐ 77. Document ID: EP 1022332 A1

L5: Entry 77 of 104 File: EPAB Jul 26, 2000

PUB-NO: EP001022332A1
DOCUMENT-IDENTIFIER: EP 1022332 A1
TITLE: BETA-FRUCTOFURANOSIDASE AND GENE THEREOF

PUBN-DATE: July 26, 2000

INVENTOR-INFORMATION:

NAME	COUNTRY
YANAI, KOJI	JP
NAKANE, AKITAKA	JP
KONO, TOSHIAKI	JP

INT-CL (IPC): C12 N 9/10; C12 N 15/54; C12 N 1/19; C12 P 19/00
EUR-CL (EPC): C12N009/26

ABSTRACT:

CHG DATE=20000901 STATUS=O> A novel beta -fructofuranosidase and its gene are disclosed. A polypeptide comprising the amino acid sequence of SEQ ID No. 1 or No. 3 is an enzyme having beta -fructofuranosidase activity and high transferase activity, and is capable of efficiently producing fructooligosaccharides.

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC
Draw. Desc | Image

☐ 78. Document ID: WO 9924593 A1

L5: Entry 78 of 104 File: EPAB May 20, 1999

PUB-NO: WO009924593A1
DOCUMENT-IDENTIFIER: WO 9924593 A1
TITLE: NUCLEIC ACID MOLECULES WHICH ENCODE PROTEINS HAVING FRUCTOSYL TRANSFERASE ACTIVITY AND METHODS FOR PRODUCING LONG-CHAIN INULIN

PUBN-DATE: May 20, 1999

INVENTOR-INFORMATION:

NAME	COUNTRY
HEYER, ARND G	DE
HELLWEGE, ELKE W	DE
GRITSCHER, DOMINIQUE	DE

INT-CL (IPC): C12 N 15/82; C12 N 15/54; C12 N 9/10; C12 N 5/10; A01 H 5/00
EUR-CL (EPC): C12N009/10; C12N015/82

ABSTRACT:

CHG DATE=19990702 STATUS=O>Nucleic acid molecules are described encoding proteins with the enzymatic activity of a fructosyl transferase. These enzymes are fructosyl transferases (FFT). Moreover, vectors and host cells are described containing the nucleic acid molecules of the invention, in particular transformed plant cells, plant tissue and plants regenerable therefrom, which express the described FFT. Furthermore, methods for the production of long-chain inulin by using the described proteins, hosts, in particular the plant cells and/or FFT produced by them, are described.

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw Desc | Image

☐ 79. Document ID: WO 9913059 A1

L5: Entry 79 of 104 File: EPAB Mar 18, 1999

PUB-NO: WO0009913059A1
DOCUMENT-IDENTIFIER: WO 9913059 A1
TITLE: beta -FRUCTOFURANOSIDASE AND GENE THEREOF

PUBN-DATE: March 18, 1999

INVENTOR-INFORMATION:

NAME	COUNTRY
YANAI, KOJI	JP
NAKANE, AKITAKA	JP
KONO, TOSHIAKI	JP

INT-CL (IPC): C12 N 9/10; C12 N 15/54; C12 N 1/19; C12 P 19/00
EUR-CL (EPC): C12N009/26

ABSTRACT:

CHG DATE=19990905 STATUS=C>A novel beta -fructofuranosidase and a gene thereof. A polypeptide containing the amino acid sequence represented by SEQ ID No: 1 or 3 in the Sequence Listing is an enzyme having a beta -fructofuranosidase activity, has a high transfer activity, and can efficiently yield fructooligosaccharides.

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw Desc | Image

☐ 80. Document ID: EP 889134 A1

L5: Entry 80 of 104 File: EPAB Jan 7, 1999

PUB-NO: EP000889134A1
DOCUMENT-IDENTIFIER: EP 889134 A1
TITLE: -g(b)-FRUCTOFURANOSIDASE AND ITS GENE, METHOD OF ISOLATING -g(b)-FRUCTOFURANOSIDASE GENE, SYSTEM FOR PRODUCING -g(b)-FRUCTOFURANOSIDASE, AND -g(b)-FRUCTOFURANOSIDASE VARIANT

PUBN-DATE: January 7, 1999

INVENTOR-INFORMATION:

NAME	COUNTRY
YANAI, KOJI	JP
NAKANE, AKITAKA	JP
NAKAMURA, HIROFUMI	JP
BABA, YUKO	JP
WATABE, AKEMI	JP
HIRAYAMA, MASAO	JP

INT-CL (IPC): C12 N 15/56; C12 N 9/24
EUR-CL (EPC): C12N009/24

ABSTRACT:

CHG DATE=19990905 STATUS=O> A novel beta -fructofuranosidase gene and a beta -fructofuranosidase encoded by the gene, a process for isolating a beta -fructofuranosidase gene using the novel beta -fructofuranosidase gene, and a novel beta -fructofuranosidase obtained by this isolation process are disclosed. A novel mold fungus having no beta -fructofuranosidase activity suitable for the production of beta -fructofuranosidase, and a system for producing a recombinant beta -fructofuranosidase using the novel mold fungus as a host is disclosed. Further, a beta -fructofuranosidase variant which selectively and efficiently produces a specific fructooligosaccharide such as 1-kestose from sucrose is disclosed.



Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw Desc | Image

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Terms	Documents
l4 and (gene or nucleic acid or dna or cdna)	104

Display Format: - Change Format

Previous Page Next Page

WEST

Generate Collection | Print

Search Results - Record(s) 81 through 100 of 104 returned.

☐ 81. Document ID: WO 9814600 A1

L5: Entry 81 of 104 File: EPAB Apr 9, 1998

PUB-NO: WO009814600A1
DOCUMENT-IDENTIFIER: WO 9814600 A1
TITLE: CANDIDA UTILIS TRANSFORMATION SYSTEM

PUBN-DATE: April 9, 1998

INVENTOR-INFORMATION:

NAME	COUNTRY
RODRIGUEZ, MENOCAL LUIS	CU
CHAVEZ, ESPINOZA FRANCISCO PABL	CU
GONZALEZ, MARTINEZ MARIA ELENA	CU
RIVERO, BAEZA TANILO	CU
BESABE, TUERO LILIANA	CU
PAIFER, REYES EDENIA	CU
DELGADO, BOADA JULIO MARCOS	CU

INT-CL (IPC): C12 N 15/81; C12 N 9/88; C12 N 9/26
EUR-CL (EPC): C12N015/81; C12N009/24

ABSTRACT:

CHG DATE=19990617 STATUS=O>The present invention discloses a transformation system useful to express heterologous proteins in the Candida utilis yeast, based on obtaining auxotrophic mutants of said species as well as the isolation of different genes, from a genomic library, which complement said auxotrophies. The transformation system uses as hosts new auxotrophic mutants obtained from the yeast NRRL Y-1084 of Candida utilis which are defective mainly in the biosynthetic ways of uracyl and histidine, which are transformed with plasmids containing as selection markers the genes URA3 and HIS3 of Candida utilis. Another aspect of the invention is the isolation of the gene coding for the enzyme sucrose invertase or beta -fructofuranosidase of Candida utilis, as well as the identification of sequences for promoting, secretion signalling and termination of said gene INV1. These sequences are useful to obtain the expression of heterologous proteins in said yeast.

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw. Desc | Image

☐ 82. Document ID: EP 812915 A2

L5: Entry 82 of 104 File: EPAB Dec 17, 1997

PUB-NO: EP000812915A2
DOCUMENT-IDENTIFIER: EP 812915 A2
TITLE: Polypeptide having beta-fructofuranosidase activity

PUBN-DATE: December 17, 1997

INVENTOR-INFORMATION:

NAME	COUNTRY
TSUSAKI, KEIJI	JP
KUBOTA, MICHIO	JP
CHAEN, HIROTO	JP

INT-CL (IPC): C12 N 15/56; C12 N 9/24; C12 N 1/21; C12 P 19/14; C12 P 19/18
EUR-CL (EPC): C12N009/24; C12P019/14, C12P019/18

ABSTRACT:

CHG DATE=19990617 STATUS=O> Disclosed are a polypeptide having a beta -fructofuranosidase activity obtainable by the expression of a microbial gene, a DNA encoding the polypeptide, a transformant obtained by introducing the DNA into an appropriate host, a process for producing the polypeptide comprising culturing the transformant to produce the polypeptide and collecting the produced polypeptide from the culture, and a method for fructofuranosyl transfer comprising a step of reacting a fructofuranosyl donor with a fructofuranosyl acceptor in the presence of the polypeptide.

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw. Desc | Image

☐ 83. Document ID: WO 9734004 A1

L5: Entry 83 of 104 File: EPAB Sep 18, 1997

PUB-NO: WO009734004A1
DOCUMENT-IDENTIFIER: WO 9734004 A1
TITLE: beta -FRUCTOFURANOSIDASE AND ITS GENE, METHOD OF ISOLATING beta -FRUCTOFURANOSIDASE GENE, SYSTEM FOR PRODUCING beta -FRUCTOFURANOSIDASE, AND beta -FRUCTOFURANOSIDASE VARIANT

PUBN-DATE: September 18, 1997

INVENTOR-INFORMATION:

NAME	COUNTRY
YANAI, KOJI	JP
NAKANE, AKITAKA	JP
NAKAMURA, HIROFUMI	JP
BABA, YUKO	JP
WATABE, AKEMI	JP
HIRAYAMA, MASAO	JP

INT-CL (IPC): C12 N 15/56; C12 N 9/24
EUR-CL (EPC): C12N009/24

ABSTRACT:

A novel beta -fructofuranosidase gene; a beta -fructofuranosidase encoded therewith; a method of isolating a beta -fructofuranosidase gene by using the novel beta -fructofuranosidase gene; a novel beta -fructofuranosidase obtained by the above method; a novel filamentous fungus which does not exhibit a beta -fructofuranosidase activity and is suited for producing beta -fructofuranosidases; a system for producing a recombinant beta -fructofuranosidase by using the above fungus as the host; and a

beta -fructofuranosidase variant which forms specified fructo-oligosaccharides such as 1-ketoses from cane sugar selectively and efficiently.

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC
Draw. Desc | Image

☐ 84. Document ID: DE 4227061 A1

L5: Entry 84 of 104 File: EPAB Feb 17, 1994

PUB-NO: DE004227061A1
DOCUMENT-IDENTIFIER: DE 4227061 A1
TITLE: A polyfructane sucrase DNA sequence from Erwinia Amylovora

PUBN-DATE: February 17, 1994

INVENTOR-INFORMATION:

NAME	COUNTRY
ROEBER, MANUELA DIPL ING	DE
GEIER, GEBHARDT	DE
GEIDER, KLAUS PROF DR	DE
WILLMITZER, LOTHAR PROF DR	DE

INT-CL (IPC): A01H 5/00; A01H 4/00; C12N 15/54; C12N 15/82
EUR-CL (EPC): C12N009/10; C12N015/82

ABSTRACT:

CHG DATE=19990617 STATUS=O>The DNA sequence (I) shown in the specification (748 bases) for a polyfructane (laevan) saccharose:beta-D-fructosyl transferase (sucrase) from the gram-negative bacteria Erwinia amylovora allowing the expression of polyfructane in plant leaves and nodules after integration into the genome is new. Also claimed as plasmids contg. (I); prodn. of transgenic plants with polyfructane expression in leaves and nodules and the plants themselves. Specifically claimed are p35s-CW-LEV(DSM7186), p35s-CY-LEV(DSM7187) and p33-CW-LEV(DSM7188).

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC
Draw. Desc | Image

☐ 85. Document ID: WO 2003000854 A2

L5: Entry 85 of 104 File: DWPI Jan 3, 2003

DERWENT-ACC-NO: 2003-210150
DERWENT-WEEK: 200320
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TITLE: Producing fructans with a low degree of polymerization in plants, useful as dietary fibers and bulking agents, comprises linking the DNA to suitable transcription-initiation/termination signals to provide an expression construct

INVENTOR: LATHOUWERS, J; VAN DUN, K ; WEYNES, G

PRIORITY-DATA: 2001US-300741P (June 25, 2001)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
WO 2003000854 A2	January 3, 2003	E	025	C12N000/00

INT-CL (IPC): C12 N 0/00

ABSTRACTED-PUB-NO: WO2003000854A
BASIC-ABSTRACT:

NOVELTY - Producing fructans having a low degree of polymerization (DP) comprises linking the DNA to suitable transcription-initiation and transcription-termination signals to provide an expression construct, and generating a transgenic plant.

DETAILED DESCRIPTION - The method comprises:

(a) Selecting two different nucleic DNA that code respectively for two fructosyltransferase enzymes, which convert at least one substrate into a fructan having a low degree of polymerization;

(b) Linking the DNA to suitable transcription-initiation and transcription-termination signals to provide an expression construct;

(c) Transforming a suitable host plant with the expression construct, regenerating a transgenic plant from the transformed plant cell;

(d) Cultivating the transgenic plant under conditions enabling the expression of the two fructosyltransferase enzymes during biosynthesis of the fructan; and

(e) Isolating the fructan from the transgenic plant.

INDEPENDENT CLAIMS are included for the following:

(1) producing seeds of transgenic plants that accumulate fructans having a degree of polymerization at, or above DP3 by:

(a) selecting two different nucleic DNA that code respectively for two fructosyltransferase enzymes mediates the biosynthesis of a fructan having a low degree of polymerization;

(b) linking the DNA to suitable transcription-initiation and transcription-termination signals to provide an expression construct;

(c) transforming suitable plant cell with the expression construct, regenerating a transgenic plant from the transformed plant cell;

(d) cultivating the transgenic plant under conditions enabling the expression of the two fructosyl transferase enzymes; and;

(e) producing seed transgenic plants that express the two fructosyltransferase enzymes.

(2) A transgenic plant that accumulates fructans having a degree of polymerization at or above DP2 comprising two different nucleic acid DNA operatively linked to a suitable transcription-initiation and transcription-termination signal to provide an expression that code respectively for two fructosyltransferase enzymes which converts at least one substrate into a fructan having at least a DP2; and

(3) A transgenic plant that accumulates carbohydrates as fructans, which is made from host plant that when in the wild-type does not accumulate fructans, comprising the degree of fructosyltransferase activity determined as the percentage of the degree of polymerization at DP2, DP3, DP4 and DP5, where at least two different nucleic acids encoding fructosyltransferase are present in the transgenic plant that are not present in the wild-type host plant.

USE - The method is useful for producing fructans (claimed), which are particularly useful as dietary fibers, and bulking agents, due to its bland flavor and fat-like texture, for producing a low-calorie food and sweeteners. Fructans are also useful in animal nutrition.

ADVANTAGE - The invention provides sugar substitutes that are sweet to taste and not hydrolyzed in the human stomach or small intestine with good organoleptic properties.

☐ 86. Document ID: US 20020170086 A1

L5: Entry 86 of 104 File: DWPI Nov 14, 2002

DERWENT-ACC-NO: 2003-370722
DERWENT-WEEK: 200335
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TITLE: New fructan:fructan 1- fructosyl transferase and sucrose:sucrose 1-fructosyl transferase polynucleotides, useful for medical and food applications, and for the production of industrial polymers and high-fructose syrup

INVENTOR: ALLEN, S M; CAIMI, P G ; STOOP, J M

PRIORITY-DATA: 2001US-0003392 (October 30, 2001), 2000US-244273P (October 30, 2000), 2001US-269543P (February 16, 2001)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
US 20020170086 A1	November 14, 2002		052	A01H005/00

INT-CL (IPC): A01 H 5/00; C07 H 21/04; C12 N 5/04

ABSTRACTED-PUB-NO: US20020170086A
BASIC-ABSTRACT:

NOVELTY - New isolated polynucleotide (I) comprising a sequence:

(a) encoding a polypeptide having fructan:fructan 1-fructosyltransferase (1-FFT) or sucrose:sucrose 1-fructosyltransferase (1-SST) activity; or

(b) complementary to (a).

DETAILED DESCRIPTION - New isolated polynucleotide (I) comprising a sequence:

(a) encoding a polypeptide having fructan:fructan 1-fructosyltransferase (1-FFT) or sucrose:sucrose 1-fructosyltransferase (1-SST) activity, where the polypeptide sequence has a fully defined sequence of 608, 609 or 390 amino acids, or 635 or 630 amino acids, respectively, given in the specification, and has at least 90% or 97% sequence identity, respectively, based on the Clustal alignment method; or

(b) complementary to (a) of and containing the same number of nucleotides which are 100% complementary.

INDEPENDENT CLAIMS are also included for the following:

(1) A vector comprising (I);

(2) A recombinant DNA construct comprising (I) operably linked to a regulatory sequence;

(3) Transforming a cell, comprising transforming a cell with (I);

(4) A cell comprising the recombinant DNA construct of (2);

(5) Producing a plant comprising transforming a plant cell with (I), and regenerating a plant from the transformed plant cell;

(6) A plant cell comprising the recombinant DNA construct of (2);

(7) A seed comprising the recombinant DNA construct of (2);

(8) An isolated polynucleotide comprising a first nucleotide sequence, where the first nucleotide sequence contains at least 30 nucleotides and is comprised by another polynucleotide that comprises (I);

(9) An isolated polypeptide having 1-FFT or 1-SST activity and a sequence of 608, 609 or 390 amino acids, or 635 or 630 amino acids, respectively, fully defined in the specification, having at least 90% or 97% sequence identity, respectively, based on the Clustal alignment method; and

(10) Isolating a polypeptide encoded by (I), comprising isolating the polypeptide from a cell containing a recombinant DNA construct with a polynucleotide operably linked to a regulatory sequence.

USE - (I) is useful in a method for transforming a cell, producing a plant, and isolating a polypeptide (claimed). The methods and compositions of the present invention are useful for medical, food and feed applications, and for the production of industrial polymers and high-fructose syrup.

☐ 87. Document ID: EP 1346032 A2 WO 200250257 A2 DE 10106163 A1 AU 200227939 A

L5: Entry 87 of 104 File: DWPI Sep 24, 2003

DERWENT-ACC-NO: 2002-508793
DERWENT-WEEK: 200363
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TITLE: New truncated nucleic acid encoding fructosyl transferase, useful for preparing polyfructans, or derivatives, from sucrose, for use as food and feed additives

INVENTOR: ENGELS, D; HAJI BEGLI, A ; KUNZ, M ; MATTES, R ; MUNIR, M ; VOGEL, M

PRIORITY-DATA: 2001DE-1006163 (February 10, 2001), 2000DE-1063889 (December 21, 2000)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
EP 1346032 A2	September 24, 2003	G	000	C12N009/10
WO 200250257 A2	June 27, 2002	G	090	C12N009/10
DE 10106163 A1	July 25, 2002		000	C12N009/10
AU 200227939 A	July 1, 2002		000	C12N009/10

INT-CL (IPC): C07 K 16/16; C12 N 5/10; C12 N 9/10; C12 N 15/11; C12 N 15/54; C12 N 15/63; C12 N 15/82; C12 P 19/04

ABSTRACTED-PUB-NO: WO 200250257A
BASIC-ABSTRACT:

NOVELTY - Nucleic acid (I) comprising a 2388 base pair sequence (S1), or encoding a 795 residue amino acid sequence (S2) with fructosyl transferase (FT) activity, both given in the specification, and having at least one deletion in the 5'- or 3'-regions of nucleotides 4-222, 1-104 or 2254-2385, is new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) vector containing (I);

(2) host cell containing (I) or the vector of (1);

(3) plant (A) that contains in at least one cell, (I) or the vector of (1), or at least one cell of (2);

(4) seeds, fruits, replicative or harvested materials, or plant tissues of (A);

(5) protein (II) with FT activity obtained by expressing (I);

(6) antibody specific for (II);

(7) antibody (AAb) specific for Ab;

(8) producing a genetically modified plant (A') able to produce a polyfructan (PF);

(9) producing PF by culturing cells of (2) or (A), or their tissues;

(10) PF produced by method (9);

(11) producing fructo-oligosaccharides (FOS);

(12) FOS produced by method (11);

(13) hydrogenated FOS produced by hydrogenating the FOS of (12);

(14) producing difructosedianhydrides (DFDA); and

(15) DFDA produced by method of (14).

ACTIVITY - Gastrointestinal-Gen.

No biological data is given.

MECHANISM OF ACTION - None given.

USE - (I) is used for recombinant production of FT and this is used to produce polyfructans (PF), specifically inulin, optionally for conversion to inulin esters or ethers, optionally hydrogenated fructo-oligosaccharides (FOS), or difructosedianhydride (DFDA). FOS and DFDA are useful as probiotic additives in human or animal nutrition.

ADVANTAGE - (I) produce PF, especially inulin, with a very low degree of branching and very low glucose content. The deleted coding sequences provide much better growth of heterologous cells than the wild-type sequence, with higher volume yields. In a typical case, expression of the wild-type FT sequence in Escherichia coli produced 1.8 FT units/mg after 3 hours, compared to 5.2 FT units/mg for a sequence that lacked the 2254-2385 region.

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC
Draw Desc | Image

☐ 88. Document ID: EP 1337654 A2 EP 1207204 A1 WO 200240687 A2

L5: Entry 88 of 104 File: DWPI Aug 27, 2003

DERWENT-ACC-NO: 2002-437465
DERWENT-WEEK: 200357
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TITLE: New tissue-specific promoters from Beta vulgaris, useful e.g. for altering carbohydrate metabolism, express transgenes selectively in roots or aerial parts

INVENTOR: HEHL, R; KLOOS, D ; STAHL, D J

PRIORITY-DATA: 2000EP-0124989 (November 16, 2000)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
EP 1337654 A2	August 27, 2003	G	000	C12N015/82
EP 1207204 A1	May 22, 2002	G	057	C12N015/82
WO 200240687 A2	May 23, 2002	G	000	C12N015/82

INT-CL (IPC): A01 H 5/00; A01 H 5/10; C12 N 1/21; C12 N 15/82

ABSTRACTED-PUB-NO: EP 1207204A
BASIC-ABSTRACT:

NOVELTY - Promoter (A) is:

(i) any of the sequences (1; 4089 bp), (2; 1919 bp), (3; 1148 bp) or (4; 3049 bp), reproduced;

(ii) the complement of (i), or (iii)

(iii) a sequence that hybridizes to (ii).

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) derivatives of (A);

(2) vector or mobile genetic element containing (A) or its derivative;

(3) eukaryotic or prokaryotic host cell containing (A) or its derivative;

(4) transgenic plants, or their parts, containing (A) or their derivatives; and

(5) seeds from the plants of (4).

USE - (A) are used, specifically in Beta vulgaris, to control expression of transgenes, particularly to alter carbohydrate metabolism; reduce loss of storage substances; express invertase inhibitor, fructosyl transferase, levan sucrase or genes that encode transporter proteins for nitrogen compounds, or increase resistance to, or tolerance of, pathogens.

ADVANTAGE - (A) provide tissue-specific transgene expression, either in roots or above-ground parts, so avoid pleiotropic effects, e.g. when expressing invertase inhibitor.

☐ 89. Document ID: EP 1305420 A2 WO 200195691 A2 AU 200165676 A

L5: Entry 89 of 104 File: DWPI May 2, 2003

DERWENT-ACC-NO: 2002-106436
DERWENT-WEEK: 200331
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TITLE: Novel nucleic acid encoding fructosyl transferase homolog from ryegrass or fescue species useful for modifying fructan biosynthesis in plants and as a molecular genetic marker

INVENTOR: JOHNSON, X A; LIDGETT, A J ; SPANGENBERG, G C ; TERDICH, K

PRIORITY-DATA: 2000AU-0008155 (June 14, 2000)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
EP 1305420 A2	May 2, 2003	E	000	C12N015/29
WO 200195691 A2	December 20, 2001	E	139	C12N000/00
AU 200165676 A	December 24, 2001		000	C12N000/00

INT-CL (IPC): C12 N 0/00; C12 N 9/10; C12 N 15/29

ABSTRACTED-PUB-NO: WO 200195691A
BASIC-ABSTRACT:

NOVELTY - A purified or isolated nucleic acid (I) or its fragment encoding a fructosyl transferase homolog from a ryegrass (Lolium sp.) or fescue (Festuca sp.), is new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) an isolated regulatory element (II) isolated from (I);

(2) a vector (III) including (I) or (II);

(3) a plant cell, plant, plant seed or other plant part comprising (I) or (II);

(4) a purified or isolated fructosyl transferase (IV) homolog from ryegrass or fescue; and

(5) a fructan or modified fructan substantially or partially purified or isolated from (3).

USE - (I) and (III) are useful for modifying fructan biosynthesis in a plant. (II) is useful for expressing an exogenous gene in plant cells (claimed). (I) is useful as a molecular genetic marker (claimed) for qualitative trait loci (QTL) tagging, QTL mapping, DNA fingerprinting and in marker assisted selection, in forage and turf grass improvement, e.g. tagging QTLs for dry matter digestibility, herbage quality, palatability, regrowth after cutting and grazing, cold tolerance, drought tolerance, tiller survival and plant persistence. Modification of fructan biosynthesis leading to fructan accumulation provides enhanced quality and/or tolerance to abiotic stresses. The fructans produced by the plants are useful as low calorie sweeteners.

☐ 90. Document ID: HU 200203349 A2 WO 200136622 A2 AU 200116610 A EP 1235904 A2

L5: Entry 90 of 104 File: DWPI Jan 28, 2003

DERWENT-ACC-NO: 2001-355631
DERWENT-WEEK: 200323
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TITLE: Increasing fructo-oligosaccharide levels in monocots by inserting recombinant DNA construct having tissue specific promoter linked to plastid targeting sequence and fructosyltransferase coding sequence, into monocot cell

INVENTOR: CAIMI, P G; LIGHTNER, J

PRIORITY-DATA: 1999US-166268P (November 18, 1999)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
HU 200203349 A2	January 28, 2003		000	C12N015/82
WO 200136622 A2	May 25, 2001	E	035	C12N015/00
AU 200116610 A	May 30, 2001		000	C12N015/00
EP 1235904 A2	September 4, 2002	E	000	C12N015/00

INT-CL (IPC): A01 H 5/00; A23 L 1/0522; C07 H 3/06; C12 N 9/10; C12 N 15/00; C12 N 15/82

ABSTRACTED-PUB-NO: WO 200136622A
BASIC-ABSTRACT:

NOVELTY - Increasing fructo-oligosaccharide (FOS) levels in a monocot by inserting into a monocot cell, a recombinant DNA construct (I) comprising a tissue specific promoter, operably linked to a plastid targeting sequence, operably linked to a coding sequence for a fructosyltransferase gene, so that the construct can transform a monocot cell and the transformed monocot synthesizes and accumulates FOS.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) (I) which can transform a monocot cell to obtain the production of FOS in the plastid of the monocot cell;

(2) a monocot (II) transformed with (I) such that the monocot produces FOS which accumulate in the plastid within cells of the monocot;

(3) a monocot transformed with (I);

(4) a seed produced from the transformed monocot;

(5) making a starch-FOS blend involves inserting into a monocot cell, (I) to produce a transgenic monocot plant, growing the plant, harvesting the plant and extracting the FOS/starch blend from the harvested plant; and

(6) an isolated starch-FOS blend, where rheological properties of pasting temperature and final viscosity are independently altered relative to the pasting temperature and final viscosity of a starch solution substantially free of FOS, provided that the starch solution comprises substantially the same amount of starch as in the blend.

USE - Increasing FOS levels in a monocot such as corn, wheat, rice, barley, sorghum, triticale and rye. (I) is useful for producing FOS which involves growing (II), harvesting the monocot and extracting the FOS which accumulate in the plastid within cells of the monocot, from the harvested monocot (claimed). The induced accumulation of FOS in transgenic plants allows the extraction of FOS from these plants for the purpose of FOS production.

The FOS and FOS/starch mixture produced using transgenic plants may be used in various food and non-food applications e.g., human and animal food products, production of fructose syrups, production of chemicals and plastids either as such or in modified form. Enhanced FOS production is useful in fructose sweetener industry and value to grain used for feed.

ADVANTAGE - The genetically modified plants which incorporate fructosyl transferase-encoding constructs allow for efficient production of carbohydrate polymers. The successful transformants utilize sucrose to synthesize and accumulate FOS in the plastid of the cell, in established crops, without loss of co-products or concern for yield loss due to degradation during maturation, harvest or storage of the plant.

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw. Desc | Image

☐ 91. Document ID: CA 2298400 A1 US 6284510 B1 JP 2000342273 A

L5: Entry 91 of 104 File: DWPI Dec 8, 2000

DERWENT-ACC-NO: 2001-123506
DERWENT-WEEK: 200154
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TITLE: Novel beta fructofuranosidase gene useful for producing beta fructofuranosidase and for developing variant enzymes that have increased heat resistance and transfer ratio by means of genetic engineering techniques

INVENTOR: FUJITA, K; HARA, K ; ITO, T ; SAKANO, Y ; TONOZUKA, T

PRIORITY-DATA: 1999JP-0160416 (June 8, 1999)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
CA 2298400 A1	December 8, 2000	E	034	C12N015/56
US 6284510 B1	September 4, 2001		000	C12P021/06
JP 2000342273 A	December 12, 2000		009	C12N015/09

INT-CL (IPC): C12 N 1/20; C12 N 9/00; C12 N 9/24; C12 N 9/26; C12 N 15/00; C12 N 15/09; C12 N 15/56; C12 P 21/06; C12 N 15/09; C12 R 1:06

ABSTRACTED-PUB-NO: CA 2298400A
BASIC-ABSTRACT:

NOVELTY - A beta -fructofuranosidase gene (I) coding for a protein comprising a sequence of 542 amino acids fully defined in the specification, is new.

USE - (I) is useful for producing beta -fructofuranosidase and also for the development of variant enzymes that have increased heat resistance and transfer ratio by means of genetic engineering techniques. beta -fructofuranosidase is useful in the synthesis of transfructosylated oligosaccharides such as lactosucrose, for use in fields of foods and drugs.

ADVANTAGE - (I) enables production of beta -fructofuranosidase on a large scale more easily and less dependently on the productivity of microorganism than the production by cultivation of microorganisms.
ABSTRACTED-PUB-NO:

US 6284510B EQUIVALENT-ABSTRACTS:

NOVELTY - A beta -fructofuranosidase gene (I) coding for a protein comprising a sequence of 542 amino acids fully defined in the specification, is new.

USE - (I) is useful for producing beta -fructofuranosidase and also for the development of variant enzymes that have increased heat resistance and transfer ratio by means of genetic engineering techniques. beta -fructofuranosidase is useful in the synthesis of transfructosylated oligosaccharides such as lactosucrose, for use in fields of foods and drugs.

ADVANTAGE - (I) enables production of beta -fructofuranosidase on a large scale more easily and less dependently on the productivity of microorganism than the production by cultivation of microorganisms.

92. Document ID: AU 764741 B DE 19840028 A1 WO 200014246 A1 AU 9959714 A BR 9913390 A EP 1108037 A1 CN 1317048 A CZ 200100794 A3 ZA 200101737 A HU 200104121 A2 US 20020064850 A1 JP 2002524079 W

L5: Entry 92 of 104 File: DWPI Aug 28, 2003

DERWENT-ACC-NO: 2000-257741
DERWENT-WEEK: 200361
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TITLE: Novel DNA encoding Aspergillus fructosyl transferase useful for production of polyfructose which is used to manufacture surfactants and suspension agents

INVENTOR: HEYER, A G; REHM, J ; WENDENBURG, R ; HEYER, A

PRIORITY-DATA: 1998DE-1040028 (September 2, 1998)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
AU 764741 B	August 28, 2003		000	C12N015/52
DE 19840028 A1	March 9, 2000		028	C12N009/10
WO 200014246 A1	March 16, 2000	G	000	C12N015/52
AU 9959714 A	March 27, 2000		000	C12N015/52
BR 9913390 A	May 22, 2001		000	C12N015/52
EP 1108037 A1	June 20, 2001	G	000	C12N015/52
CN 1317048 A	October 10, 2001		000	C12N015/52
CZ 200100794 A3	January 16, 2002		000	C12N015/52
ZA 200101737 A	March 27, 2002		162	C12N000/00
HU 200104121 A2	March 28, 2002		000	C12N015/52
US 20020064850 A1	May 30, 2002		000	C12N009/10
JP 2002524079 W	August 6, 2002		053	C12N015/09

INT-CL (IPC): A01 H 5/00; A23 K 1/16; A23 L 1/09; C07 H 21/04; C12 N 0/00; C12 N 1/15; C12 N 1/16; C12 N 1/19; C12 N 1/21; C12 N 5/10; C12 N 9/10; C12 N 15/09; C12 N 15/31; C12 N 15/52; C12 N 15/54; C12 N 15/80; C12 N 15/82; C12 P 19/04; C12 P 19/18; C12 Q 1/68

ABSTRACTED-PUB-NO: DE 19840028A
BASIC-ABSTRACT:

NOVELTY - Nucleic acid molecule (I) encoding a fructosyl transferase, is new.

DETAILED DESCRIPTION - Novel fructosyl transferase encoding nucleic acid molecule (I) comprising:

(a) a sequence encoding a protein comprising a 682 amino acid sequence, given in the specification;

(b) the coding region of a 2197 base pair sequence given in the specification or its corresponding RNA sequence;

(c) a nucleic acid molecule which hybridizes to the complementary strand of (a) or (b); or

(d) a nucleic acid molecule which differs to (c) on the basis of the degeneracy of the genetic code.

INDEPENDENT CLAIMS are also included for the following:

(1) a vector containing (I);

(2) a host cell transformed with (I) or a vector as in (1);

(3) production of a fructosyl transferase, by cultivating the host cell of (2) and isolating the fructosyl transferase from the cultured cells and/or culture medium;

(4) a fructosyl transferase encoded by (I);

(5) a nucleic acid molecule which specifically hybridizes with (I) or its complement;

(6) production of polyfructose, in particular inulin type polyfructose by cultivating the host cell of (2) or a host cell producing fructosyl transferase and isolating polyfructose from the cells and/or culture medium or incubating saccharose with the fructosyl transferase of (4); and

(7) a polyfructose from a host cell or method as above.

USE - The fructosyl transferase is useful for the production of polyfructose. Polyfructose can be used to manufacture surfactants, to increase the viscosity of an aqueous system, as a suspending agent, to accelerate sedimentation and in the formation of complexes or to bind water. The host cell can be used as a food. (All claimed).

DESCRIPTION OF DRAWING(S) - The diagram shows a bacterial vector, designated pSK-as1.
ABSTRACTED-PUB-NO:

US20020064850A EQUIVALENT-ABSTRACTS:

NOVELTY - Nucleic acid molecule (I) encoding a fructosyl transferase, is new.

DETAILED DESCRIPTION - Novel fructosyl transferase encoding nucleic acid molecule (I) comprising:

(a) a sequence encoding a protein comprising a 682 amino acid sequence, given in the specification;

(b) the coding region of a 2197 base pair sequence given in the specification or its corresponding RNA sequence;

(c) a nucleic acid molecule which hybridizes to the complementary strand of (a) or (b); or

(d) a nucleic acid molecule which differs to (c) on the basis of the degeneracy of the genetic code.

INDEPENDENT CLAIMS are also included for the following:

(1) a vector containing (I);

(2) a host cell transformed with (I) or a vector as in (1);

(3) production of a fructosyl transferase, by cultivating the host cell of (2) and isolating the fructosyl transferase from the cultured cells and/or culture medium;

(4) a fructosyl transferase encoded by (I);

(5) a nucleic acid molecule which specifically hybridizes with (I) or its complement;

(6) production of polyfructose, in particular inulin type polyfructose by cultivating the host cell of (2) or a host cell producing fructosyl transferase and isolating polyfructose from the cells and/or culture medium or incubating saccharose with the fructosyl transferase of (4); and

(7) a polyfructose from a host cell or method as above.

USE - The fructosyl transferase is useful for the production of polyfructose. Polyfructose can be used to manufacture surfactants, to increase the viscosity of an aqueous system, as a suspending agent, to accelerate sedimentation and in the formation of complexes or to bind water. The host cell can be used as a food. (All claimed).

DESCRIPTION OF DRAWING(S) - The diagram shows a bacterial vector, designated pSK-as1.

☐ 93. Document ID: WO 9940206 A1 JP 2002505084 W AU 9927217 A EP 1053334 A1 CN 1289367 A AU 742048 B

L5: Entry 93 of 104 File: DWPI Aug 12, 1999

DERWENT-ACC-NO: 1999-494299
DERWENT-WEEK: 200216
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TITLE: DNA encoding carrot neutral invertase and its recombinant product, useful for hydrolyzing sucrose

INVENTOR: STURM, A

PRIORITY-DATA: 1998GB-0002249 (February 3, 1998)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
WO 9940206 A1	August 12, 1999	E	032	C12N015/55
JP 2002505084 W	February 19, 2002		035	C12N015/09
AU 9927217 A	August 23, 1999		000	C12N015/55
EP 1053334 A1	November 22, 2000	E	000	C12N015/55
CN 1289367 A	March 28, 2001		000	C12N015/55
AU 742048 B	December 13, 2001		000	C12N015/55

INT-CL (IPC): C12 N 9/26; C12 N 15/09; C12 N 15/11; C12 N 15/55; C12 Q 1/68

ABSTRACTED-PUB-NO: WO 9940206A
BASIC-ABSTRACT:

NOVELTY - DNA encoding a protein with invertase activity, where highest activity is observed in the range of pH 6.0-7.5, is new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) a protein having invertase activity but lacking beta -fructofuranosidase activity, where highest invertase activity is observed between pH 6.0 and 7.5;

(2) a method of producing DNA comprising:

(i) screening a DNA library for clones which are capable of hybridizing to a DNA fragment having a 2447 base pairs (bp), where the fragment is at least 5 bp long;

(ii) sequencing the clones;

(iii) purifying vector DNA of clones comprising an open reading frame encoding a protein with over 40% identity to a sequence of 675 amino acids, and

(iv) optionally further processing the purified DNA, and

(3) polymerase chain reaction (PCR) where at least one oligonucleotide used comprises a sequence of nucleotides which represents 15 or more base pairs of a 2025 or 2447 bp sequence (all sequences are given in the specification).

USE - Invertases hydrolyze sucrose into glucose and fructose thus feeding the sucrose into various biochemical pathways. Technically acid invertase is used in the confectionery industry to convert easily crystallized sucrose into the less easily crystallized glucose-fructose mixture. Thereby a hard sucrose core coated for example with chocolate can be turned into the soft center ate. Depending on the specific use invertases with neutral or alkaline pH optima would be preferred. The present invention provides such a neutral invertase.

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC
Drawi Desc | Image

☐ 94. Document ID: US 6559356 B1 WO 9924593 A1 DE 19749122 A1 ZA 9810110 A AU 9916674 A EP 1029067 A1 BR 9813968 A CZ 200001680 A3 CN 1280624 A HU 200100111 A2 JP 2001521757 W AU 753390 B

L5: Entry 94 of 104 File: DWPI May 6, 2003

DERWENT-ACC-NO: 1999-327415
DERWENT-WEEK: 200338
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TITLE: Nucleic acid molecules encoding an artichoke fructan-fructosyl transferase

INVENTOR: GRITSCHER, D; HELLWEGE, E ; HEYER, A G ; HELLWEGE, E W ; HELLWEGE, E M

PRIORITY-DATA: 1997DE-1049122 (November 6, 1997)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
US 6559356 B1	May 6, 2003		000	C12N015/29
WO 9924593 A1	May 20, 1999	E	050	C12N015/82
DE 19749122 A1	June 10, 1999		000	C12N009/10
ZA 9810110 A	July 28, 1999		048	C12N000/00
AU 9916674 A	May 31, 1999		000	
EP 1029067 A1	August 23, 2000	E	000	
BR 9813968 A	September 26, 2000		000	C12N015/82
CZ 200001680 A3	October 11, 2000		000	C12N015/82
CN 1280624 A	January 17, 2001		000	C12N015/82
HU 200100111 A2	May 28, 2001		000	C12N015/82
JP 2001521757 W	November 13, 2001		050	C12N015/09
AU 753390 B	October 17, 2002		000	C12N015/82

INT-CL (IPC): A01 H 1/00; A01 H 5/00; C07 H 21/00; C08 B 37/18; C12 N 0/00; C12 N 5/10; C12 N 9/10; C12 N 15/09; C12 N 15/29; C12 N 15/54; C12 N 15/63; C12 N 15/82; C12 P 19/04

ABSTRACTED-PUB-NO: WO 9924593A
BASIC-ABSTRACT:

NOVELTY - Nucleic acid molecules encoding a fructan-fructosyl transferase (FFT) are new.

DETAILED DESCRIPTION - Nucleic acid molecules encoding a protein with the enzymatic activity of a FFT leading to the synthesis of high-molecular fructan polymers, the molecules of which contain on average more than 20 fructosyl residues. These are selected from nucleic acid molecules:

(i) encoding a 617 amino acid;

(ii) having a 2073 bp sequence or a 2073 bp variant of this sequence, or a corresponding ribonucleotide sequence;

(iii) hybridizing to a complementary strand of (a) or (b) under stringent conditions; or

(iv) comprising a fragment of a nucleotide sequence above. All sequences are given in the specification.

INDEPENDENT CLAIMS are also included for the following:

(1) a vector containing a nucleic acid molecule as above;

(2) a host cell transformed with a nucleic acid molecule or vector as above;

(3) production of an FFT, in which the host cell is cultured and the FFT is isolated from the cultivated cells and/or from the culture medium;

(4) an FFT encoded by a nucleic acid molecule as above or produced by the method of (3);

(5) a nucleic acid which specifically hybridizes to a nucleic acid molecule as above or to a complementary strand of one of the nucleic acid molecules;

(6) a transformed host cell, transgenic plant cell, plant tissue or plant which contains a nucleic acid molecule or vector as above;

(7) a plant or propagation material of a plant, containing plant cells or plant tissue from above;

(8) harvest products of a plant as above;

(9) production of long-chain inulin;

(10) an in vitro method for producing long-chain inulin where the substrate sucrose is converted into long-chain inulin by an enzyme combination of sucrose fructosyl transferase (SST) and FFT; and

(11) long-chain inulin obtainable from a host cell, plant cell or tissue, plant, propagation material or harvest products or methods as above.

ACTIVITY - Inulin Production.

MECHANISM OF ACTION - Enzyme Polymerization.

USE - The long-chain inulin produced by the methods above, is used in order to produce surfactants for increasing the viscosity in aqueous systems, as a detergent, as a suspending agent, for speeding up sedimentation and for complexing or for binding water (claimed).

ADVANTAGE - High amounts of high molecular inulin are formed during expression of the nucleic acids in transformed plants. The inulin formed in the plants exhibits an average degree of polymerization of more than DP=20. A similar enzyme from Helianthus tuberosus involved in the synthesis of inulin had an average degree of polymerization of less than DP=20 in transgenic plants (NL9600012)

DESCRIPTION OF DRAWING(S) - Plasmid construct p33-csFFT.

☐ 95. Document ID: US 6566111 B1 WO 9913059 A1 AU 9890018 A EP 1022332 A1 CN 1276008 A JP 11515365 X KR 2001015575 A

L5: Entry 95 of 104 File: DWPI May 20, 2003

DERWENT-ACC-NO: 1999-215060
DERWENT-WEEK: 200336
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TITLE: Genes for producing approximatelyb-fructofuranosidase

INVENTOR: KONO, T; NAKANE, A ; YANAI, K

PRIORITY-DATA: 1997JP-0245154 (September 10, 1997)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
US 6566111 B1	May 20, 2003		000	C12N009/24
WO 9913059 A1	March 18, 1999	J	042	C12N009/10
AU 9890018 A	March 29, 1999		000	
EP 1022332 A1	July 26, 2000	E	000	C12N009/10
CN 1276008 A	December 6, 2000		000	C12N009/10
JP 11515365 X	March 27, 2001		000	C12N009/10
KR 2001015575 A	February 26, 2001		000	C12N009/10

INT-CL (IPC): C07 K 14/00; C12 N 1/19; C12 N 9/10; C12 N 9/24; C12 N 15/54; C12 P 19/00

ABSTRACTED-PUB-NO: WO 9913059A
BASIC-ABSTRACT:

NOVELTY - A new approx. b-fructofuranosidase polypeptide comprising the amino-acid sequence (A) given in the specification, or its homolog.

DETAILED DESCRIPTION - A polypeptide comprises the approx. b-fructofuranosidase polypeptide amino-acid sequence (A) or its homolog.

INDEPENDENT CLAIMS are also included for:

(1) a DNA encoding the polypeptide, which has a base sequence (I) given in the specification;

(2) a similar polypeptide has an amino-acid sequence of (B) given in the specification;

(3) a DNA encoding the polypeptide as in (2), which has a base sequence of (D) given in the specification;

(4) a vector containing one of the DNAs;

(5) a host cell that is transformed with the vector;

(6) a method for producing beta -fructofuranosidase by culturing the transformant before recovering the product; and

(7) a process for making fructooligosaccharide by contacting sucrose with the thus obtained beta -fructofuranosidase.

USE - The genes can produce beta -fructofuranosidase which are useful in the (bio)synthesis of fructooligosaccharides. Being difficult to digest, such fructooligosaccharides can be applied in the food and drink industry; they can also promote the growth of beneficial gut bacteria particularly Bifidus and to improve lipid metabolism including cholesterol.

ADVANTAGE - The thus obtained beta -fructofuranosidases have high fructose transfer activity, leading to efficient yield of fructooligosaccharides.

DESCRIPTION OF DRAWING(S) - First stage of the construction of expression vector pYPEN01.

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC
Draw. Desc | Clip Img | Image

☐ 96. Document ID: US 20020115182 A1 EP 812915 A2 AU 9724762 A JP 10066586 A KR 98002064 A CA 2205080 A US 5962297 A AU 721607 B US 6383769 B1

L5: Entry 96 of 104 File: DWPI Aug 22, 2002

DERWENT-ACC-NO: 1998-034976
DERWENT-WEEK: 200258
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TITLE: Bacillus beta-fructofuranosidase enzyme - useful for producing fructo:furanosylated saccharide(s) or alcohol(s)

INVENTOR: CHAEN, H; KUBOTA, M ; TSUSAKI, K

PRIORITY-DATA: 1996JP-0170630 (June 10, 1996)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
US 20020115182 A1	August 22, 2002		000	C12N009/24
EP 812915 A2	December 17, 1997	E	032	C12N015/56
AU 9724762 A	December 18, 1997		000	C12N009/10
JP 10066586 A	March 10, 1998		020	C12N015/09
KR 98002064 A	March 30, 1998		000	C07K014/195
CA 2205080 A	December 10, 1997		000	C12N015/56
US 5962297 A	October 5, 1999		000	C12N009/10
AU 721607 B	July 6, 2000		000	C12N009/10
US 6383769 B1	May 7, 2002		000	C12Q001/48

INT-CL (IPC): C07 H 21/02; C07 H 21/04; C07 K 14/195; C07 K 14/32; C12 N 1/21; C12 N 9/10; C12 N 9/24; C12 N 9/26; C12 N 15/09; C12 N 15/54; C12 N 15/56; C12 P 19/14; C12 P 19/18; C12 P 21/02; C12 Q 1/48; C12 N 15/09; C12 R 1:07; C12 N 1/21; C12 R 1:19; C12 N 9/24; C12 R 1:19

ABSTRACTED-PUB-NO: EP 812915A
BASIC-ABSTRACT:

A new isolated beta -fructofuranosidase polypeptide (A) is obtainable by expression of a microbial gene and contains the amino acid sequences (Aa) and (Ab).

Met-Asn-Ser-Gly-Asp-Tyr-Lys-Glu-Asp-Tyr-Gly-Phe-Ala-His-Ile-Thr-Arg-Ala-As- p-Met-Leu (Aa)

Ser-Val-Phe-Asp-Gly-Gly-Asp-Gly-Thr-Val-Tyr-Gln (Ab).

Also claimed are: (1) DNA (I) encoding (A); and (2) a transformant obtainable by introducing (I) intro an appropriate host.

MORE SPECIFICALLY - (A) is the beta-fructofuranosidase (EC-3.2.1.26) of Bacillus sp. V230 (FERM BP-5054) and has the following properties: (a) a molecular weight of 44-54 kD by SDS-PAGE; (b) an optimum pH of 5.5-6.0 when incubated at 40 deg. C for 10 minutes; (c) an optimum temperature of 45 deg. C when incubated at pH 6 for 10 minutes in the presence or absence of calcium ions; (d) an optimum temperature of 50 deg. C when incubated at pH 6 for 10 min the presence of calcium ions; (e) stable at pH 5-8 when incubated at 4 deg. C for 24 hours; and (f) stable up to 45 deg. C when incubated at pH 6 for 1 hour. (A) has a 487 amino acid (aa) sequence, including a 32 aa signal peptide, encoded by a 2408 bp given in the specification.

USE - (I) is useful for catalysing the reaction of a fructofuranosyl donor with a fructofuranosyl acceptor, preferably where the donor is sucrose, raffinose or erlose and the acceptor is selected from alcohols, sugar alcohols and saccharides having no beta -fructofuranosidic linkages, especially where the reaction product is xylosyl fructoside, erlose, isomaltosyl fructoside, lactosucrose or fructosyltrehalose. Such reaction products have a satisfactory taste and sweetness, a moderate viscosity and humectancy, an effective anticariogenic activity, growth promoting activity for bifidobacteria, mineral-absorption promoting activity. The products can be used to improve the tastes and textures of food products, cosmetics and pharmaceuticals and are useful as sweeteners in the food and pharmaceutical industries.

EXAMPLE - A liquid nutrient culture medium (pH 7.0) consisting of 1.0 w/v % sucrose, 0.5 w/v % polypeptone, 0.1 w/v % yeast extract, 0.1 w/v % dipotassium hydrogen phosphate, 0.06 w/v % sodium dihydrogen phosphate dihydrate, 0.05 w/v % magnesium

sulphate heptahydrate, 0.3 w/v % calcium carbonate and water was prepared. 100 ml aliquots of the culture medium were distributed to 500 ml flasks sterilized by autoclaving at 120 deg. C for 15 min, cooled, inoculated with a seed of Bacillus sp V230 (FERM BP-5054) and cultured under rotary shaking conditions at 30 deg. C for 20 hours to obtain a seed culture.

About 7 L of a fresh preparation of the same liquid nutrient culture medium was placed in a 10 L jar fermenter sterilised similarly as above, cooled to 30 deg. C, inoculated with one v/v % of the seed culture and cultured under aeration agitation conditions at 30 deg. C for 20 hours. The resultant culture was centrifuged to obtain a 6.3 L supernatant containing 36 units/ml of beta -fructofuranosidase. To the supernatant was added ammonium sulphate to give a 80% saturation, allowed to stand at 4 deg. C overnight and centrifuged to obtain a precipitate containing beta -fructofuranosidase.

The precipitate was dissolved in 10 mM acetate buffer (pH 6.0) containing 5 mM calcium chloride, dialysed against a fresh preparation of the same acetate buffer for one day and centrifuged to obtain a 210 ml supernatant. The supernatant was fed to a column packed with 380 ml of DEAE-TOYOPEARL (RTM) 650 which had been previously equilibrated with 10 mM acetate buffer (pH 6.0) containing 5 mM calcium chloride and fed with a linear gradient buffer of sodium chloride increasing from 0 M to 0.5 M in 10 mM acetate buffer (pH 6.0) followed by collecting fractions eluted at around 0.1 M sodium chloride.

The fractions were pooled, dialysed against 10 mM acetate buffer (pH 60) containing 1 M ammonium sulphate and 5 mM calcium chloride and centrifuged to obtain a supernatant which was then fed to a column packed with 100 ml of BUTYL-TOYOPEARL (RTM) 650 which had been equilibrated with 10 mM acetate buffer (pH 6.0) containing 5 mM calcium chloride and fed with a linear gradient buffer of ammonium sulphate decreasing from 1 M to 0 M in 10 mM acetate buffer (pH 6.0) containing 5 mM calcium chloride followed by collecting fractions eluted at around 0.1 M ammonium sulphate.

Thereafter the fractions were pooled, dialysed against 10 mM acetate buffer (pH 6.0) containing 5 mM calcium chloride and centrifuged to obtain a supernatant which was then fed to a column packed with 10 ml of DEAE-TOYOPEARL (RTM) 650 which had been equilibrated with 10 mM acetate buffer (pH 6.0) containing 5 mM calcium chloride, and fractionated similarly as above to obtain 14 mg of a purified beta -fructofuranosidase with a specific activity of 205 units/mg protein. When electrophoresed on SDS-PAGE, the purified beta -fructofuranosidase was observed as a substantially single protein band with beta -fructofuranosidase activity. (GS6)

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ABSTRACTED-PUB-NO:

US 5962297A EQUIVALENT-ABSTRACTS:

A new isolated beta -fructofuranosidase polypeptide (A) is obtainable by expression of a microbial gene and contains the amino acid sequences (Aa) and (Ab).

Met-Asn-Ser-Gly-Asp-Tyr-Lys-Glu-Asp-Tyr-Gly-Phe-Ala-His-Ile-Thr-Arg-Ala-As- p-Met-Leu (Aa)

Ser-Val-Phe-Asp-Gly-Gly-Asp-Gly-Thr-Val-Tyr-Gln (Ab).

Also claimed are: (1) DNA (I) encoding (A); and (2) a transformant obtainable by introducing (I) intro an appropriate host.

MORE SPECIFICALLY - (A) is the beta-fructofuranosidase (EC-3.2.1.26) of Bacillus sp. V230 (FERM BP-5054) and has the following properties: (a) a molecular weight of 44-54 kD by SDS-PAGE; (b) an optimum pH of 5.5-6.0 when incubated at 40 deg. C for 10 minutes; (c) an optimum temperature of 45 deg. C when incubated at pH 6 for 10 minutes in the presence or absence of calcium ions; (d) an optimum temperature of 50 deg. C when incubated at pH 6 for 10 min the presence of calcium ions; (e) stable at pH 5-8 when incubated at 4 deg. C for 24 hours; and (f) stable up to 45 deg. C when incubated at pH 6 for 1 hour. (A) has a 487 amino acid (aa) sequence, including a 32 aa signal peptide, encoded by a 2408 bp given in the specification.

USE - (I) is useful for catalysing the reaction of a fructofuranosyl donor with a fructofuranosyl acceptor, preferably where the donor is sucrose, raffinose or erlose and the acceptor is selected from alcohols, sugar alcohols and saccharides having no

beta -fructofuranosidic linkages, especially where the reaction product is xylosyl fructoside, erlose, isomaltosyl fructoside, lactosucrose or fructosyltrehalose. Such reaction products have a satisfactory taste and sweetness, a moderate viscosity and humectancy, an effective anticariogenic activity, growth promoting activity for bifidobacteria, mineral-absorption promoting activity. The products can be used to improve the tastes and textures of food products, cosmetics and pharmaceuticals and are useful as sweeteners in the food and pharmaceutical industries.

EXAMPLE - A liquid nutrient culture medium (pH 7.0) consisting of 1.0 w/v % sucrose, 0.5 w/v % polypeptone, 0.1 w/v % yeast extract, 0.1 w/v % dipotassium hydrogen phosphate, 0.06 w/v % sodium dihydrogen phosphate dihydrate, 0.05 w/v % magnesium sulphate heptahydrate, 0.3 w/v % calcium carbonate and water was prepared. 100 ml aliquots of the culture medium were distributed to 500 ml flasks sterilized by autoclaving at 120 deg. C for 15 min, cooled, inoculated with a seed of Bacillus sp V230 (FERM BP-5054) and cultured under rotary shaking conditions at 30 deg. C for 20 hours to obtain a seed culture.

About 7 L of a fresh preparation of the same liquid nutrient culture medium was placed in a 10 L jar fermenter sterilised similarly as above, cooled to 30 deg. C, inoculated with one v/v % of the seed culture and cultured under aeration agitation conditions at 30 deg. C for 20 hours. The resultant culture was centrifuged to obtain a 6.3 L supernatant containing 36 units/ml of beta -fructofuranosidase. To the supernatant was added ammonium sulphate to give a 80% saturation, allowed to stand at 4 deg. C overnight and centrifuged to obtain a precipitate containing beta -fructofuranosidase.

The precipitate was dissolved in 10 mM acetate buffer (pH 6.0) containing 5 mM calcium chloride, dialysed against a fresh preparation of the same acetate buffer for one day and centrifuged to obtain a 210 ml supernatant. The supernatant was fed to a column packed with 380 ml of DEAE-TOYOPEARL (RTM) 650 which had been previously equilibrated with 10 mM acetate buffer (pH 6.0) containing 5 mM calcium chloride and fed with a linear gradient buffer of sodium chloride increasing from 0 M to 0.5 M in 10 mM acetate buffer (pH 6.0) followed by collecting fractions eluted at around 0.1 M sodium chloride.

The fractions were pooled, dialysed against 10 mM acetate buffer (pH 60) containing 1 M ammonium sulphate and 5 mM calcium chloride and centrifuged to obtain a supernatant which was then fed to a column packed with 100 ml of BUTYL-TOYOPEARL (RTM) 650 which had been equilibrated with 10 mM acetate buffer (pH 6.0) containing 5 mM calcium chloride and fed with a linear gradient buffer of ammonium sulphate decreasing from 1 M to 0 M in 10 mM acetate buffer (pH 6.0) containing 5 mM calcium chloride followed by collecting fractions eluted at around 0.1 M ammonium sulphate.

Thereafter the fractions were pooled, dialysed against 10 mM acetate buffer (pH 6.0) containing 5 mM calcium chloride and centrifuged to obtain a supernatant which was then fed to a column packed with 10 ml of DEAE-TOYOPEARL (RTM) 650 which had been equilibrated with 10 mM acetate buffer (pH 6.0) containing 5 mM calcium chloride, and fractionated similarly as above to obtain 14 mg of a purified beta -fructofuranosidase with a specific activity of 205 units/mg protein. When electrophoresed on SDS-PAGE, the purified beta -fructofuranosidase was observed as a substantially single protein band with beta -fructofuranosidase activity. (GS6)

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US 6383769B

A new isolated beta -fructofuranosidase polypeptide (A) is obtainable by expression of a microbial gene and contains the amino acid sequences (Aa) and (Ab).

Met-Asn-Ser-Gly-Asp-Tyr-Lys-Glu-Asp-Tyr-Gly-Phe-Ala-His-Ile-Thr-Arg-Ala-As- p-Met-Leu (Aa)

Ser-Val-Phe-Asp-Gly-Gly-Asp-Gly-Thr-Val-Tyr-Gln (Ab).

Also claimed are: (1) DNA (I) encoding (A); and (2) a transformant obtainable by introducing (I) intro an appropriate host.

MORE SPECIFICALLY - (A) is the beta-fructofuranosidase (EC-3.2.1.26) of Bacillus sp. V230 (FERM BP-5054) and has the following properties: (a) a molecular weight of 44-54 kD by SDS-PAGE; (b) an optimum pH of 5.5-6.0 when incubated at 40 deg. C for 10

minutes; (c) an optimum temperature of 45 deg. C when incubated at pH 6 for 10 minutes in the presence or absence of calcium ions; (d) an optimum temperature of 50 deg. C when incubated at pH 6 for 10 min the presence of calcium ions; (e) stable at pH 5-8 when incubated at 4 deg. C for 24 hours; and (f) stable up to 45 deg. C when incubated at pH 6 for 1 hour. (A) has a 487 amino acid (aa) sequence, including a 32 aa signal peptide, encoded by a 2408 bp given in the specification.

USE - (I) is useful for catalysing the reaction of a fructofuranosyl donor with a fructofuranosyl acceptor, preferably where the donor is sucrose, raffinose or erlose and the acceptor is selected from alcohols, sugar alcohols and saccharides having no beta -fructofuranosidic linkages, especially where the reaction product is xylosyl fructoside, erlose, isomaltosyl fructoside, lactosucrose or fructosyltrehalose. Such reaction products have a satisfactory taste and sweetness, a moderate viscosity and humectancy, an effective anticariogenic activity, growth promoting activity for bifidobacteria, mineral-absorption promoting activity. The products can be used to improve the tastes and textures of food products, cosmetics and pharmaceuticals and are useful as sweeteners in the food and pharmaceutical industries.

EXAMPLE - A liquid nutrient culture medium (pH 7.0) consisting of 1.0 w/v % sucrose, 0.5 w/v % polypeptone, 0.1 w/v % yeast extract, 0.1 w/v % dipotassium hydrogen phosphate, 0.06 w/v % sodium dihydrogen phosphate dihydrate, 0.05 w/v % magnesium sulphate heptahydrate, 0.3 w/v % calcium carbonate and water was prepared. 100 ml aliquots of the culture medium were distributed to 500 ml flasks sterilized by autoclaving at 120 deg. C for 15 min, cooled, inoculated with a seed of Bacillus sp V230 (FERM BP-5054) and cultured under rotary shaking conditions at 30 deg. C for 20 hours to obtain a seed culture.

About 7 L of a fresh preparation of the same liquid nutrient culture medium was placed in a 10 L jar fermenter sterilised similarly as above, cooled to 30 deg. C, inoculated with one v/v % of the seed culture and cultured under aeration agitation conditions at 30 deg. C for 20 hours. The resultant culture was centrifuged to obtain a 6.3 L supernatant containing 36 units/ml of beta -fructofuranosidase. To the supernatant was added ammonium sulphate to give a 80% saturation, allowed to stand at 4 deg. C overnight and centrifuged to obtain a precipitate containing beta -fructofuranosidase.

The precipitate was dissolved in 10 mM acetate buffer (pH 6.0) containing 5 mM calcium chloride, dialysed against a fresh preparation of the same acetate buffer for one day and centrifuged to obtain a 210 ml supernatant. The supernatant was fed to a column packed with 380 ml of DEAE-TOYOPEARL (RTM) 650 which had been previously equilibrated with 10 mM acetate buffer (pH 6.0) containing 5 mM calcium chloride and fed with a linear gradient buffer of sodium chloride increasing from 0 M to 0.5 M in 10 mM acetate buffer (pH 6.0) followed by collecting fractions eluted at around 0.1 M sodium chloride.

The fractions were pooled, dialysed against 10 mM acetate buffer (pH 60) containing 1 M ammonium sulphate and 5 mM calcium chloride and centrifuged to obtain a supernatant which was then fed to a column packed with 100 ml of BUTYL-TOYOPEARL (RTM) 650 which had been equilibrated with 10 mM acetate buffer (pH 6.0) containing 5 mM calcium chloride and fed with a linear gradient buffer of ammonium sulphate decreasing from 1 M to 0 M in 10 mM acetate buffer (pH 6.0) containing 5 mM calcium chloride followed by collecting fractions eluted at around 0.1 M ammonium sulphate.

Thereafter the fractions were pooled, dialysed against 10 mM acetate buffer (pH 6.0) containing 5 mM calcium chloride and centrifuged to obtain a supernatant which was then fed to a column packed with 10 ml of DEAE-TOYOPEARL (RTM) 650 which had been equilibrated with 10 mM acetate buffer (pH 6.0) containing 5 mM calcium chloride, and fractionated similarly as above to obtain 14 mg of a purified beta -fructofuranosidase with a specific activity of 205 units/mg protein. When electrophoresed on SDS-PAGE, the purified beta -fructofuranosidase was observed as a substantially single protein band with beta -fructofuranosidase activity. (GS6)

22222222

US20020115182A

A new isolated beta -fructofuranosidase polypeptide (A) is obtainable by expression of a microbial gene and contains the amino acid sequences (Aa) and (Ab).

Met-Asn-Ser-Gly-Asp-Tyr-Lys-Glu-Asp-Tyr-Gly-Phe-Ala-His-Ile-Thr-Arg-Ala-As- p-Met-Leu

(Aa)

Ser-Val-Phe-Asp-Gly-Gly-Asp-Gly-Thr-Val-Tyr-Gln (Ab).

Also claimed are: (1) DNA (I) encoding (A); and (2) a transformant obtainable by introducing (I) intro an appropriate host.

MORE SPECIFICALLY - (A) is the beta-fructofuranosidase (EC-3.2.1.26) of Bacillus sp. V230 (FERM BP-5054) and has the following properties: (a) a molecular weight of 44-54 kD by SDS-PAGE; (b) an optimum pH of 5.5-6.0 when incubated at 40 deg. C for 10 minutes; (c) an optimum temperature of 45 deg. C when incubated at pH 6 for 10 minutes in the presence or absence of calcium ions; (d) an optimum temperature of 50 deg. C when incubated at pH 6 for 10 min the presence of calcium ions; (e) stable at pH 5-8 when incubated at 4 deg. C for 24 hours; and (f) stable up to 45 deg. C when incubated at pH 6 for 1 hour. (A) has a 487 amino acid (aa) sequence, including a 32 aa signal peptide, encoded by a 2408 bp given in the specification.

USE - (I) is useful for catalysing the reaction of a fructofuranosyl donor with a fructofuranosyl acceptor, preferably where the donor is sucrose, raffinose or erlose and the acceptor is selected from alcohols, sugar alcohols and saccharides having no beta -fructofuranosidic linkages, especially where the reaction product is xylosyl fructoside, erlose, isomaltosyl fructoside, lactosucrose or fructosyltrehalose. Such reaction products have a satisfactory taste and sweetness, a moderate viscosity and humectancy, an effective anticariogenic activity, growth promoting activity for bifidobacteria, mineral-absorption promoting activity. The products can be used to improve the tastes and textures of food products, cosmetics and pharmaceuticals and are useful as sweeteners in the food and pharmaceutical industries.

EXAMPLE - A liquid nutrient culture medium (pH 7.0) consisting of 1.0 w/v % sucrose, 0.5 w/v % polypeptone, 0.1 w/v % yeast extract, 0.1 w/v % dipotassium hydrogen phosphate, 0.06 w/v % sodium dihydrogen phosphate dihydrate, 0.05 w/v % magnesium sulphate heptahydrate, 0.3 w/v % calcium carbonate and water was prepared. 100 ml aliquots of the culture medium were distributed to 500 ml flasks sterilized by autoclaving at 120 deg. C for 15 min, cooled, inoculated with a seed of Bacillus sp V230 (FERM BP-5054) and cultured under rotary shaking conditions at 30 deg. C for 20 hours to obtain a seed culture.

About 7 L of a fresh preparation of the same liquid nutrient culture medium was placed in a 10 L jar fermenter sterilised similarly as above, cooled to 30 deg. C, inoculated with one v/v % of the seed culture and cultured under aeration agitation conditions at 30 deg. C for 20 hours. The resultant culture was centrifuged to obtain a 6.3 L supernatant containing 36 units/ml of beta -fructofuranosidase. To the supernatant was added ammonium sulphate to give a 80% saturation, allowed to stand at 4 deg. C overnight and centrifuged to obtain a precipitate containing beta -fructofuranosidase.

The precipitate was dissolved in 10 mM acetate buffer (pH 6.0) containing 5 mM calcium chloride, dialysed against a fresh preparation of the same acetate buffer for one day and centrifuged to obtain a 210 ml supernatant. The supernatant was fed to a column packed with 380 ml of DEAE-TOYOPEARL (RTM) 650 which had been previously equilibrated with 10 mM acetate buffer (pH 6.0) containing 5 mM calcium chloride and fed with a linear gradient buffer of sodium chloride increasing from 0 M to 0.5 M in 10 mM acetate buffer (pH 6.0) followed by collecting fractions eluted at around 0.1 M sodium chloride.

The fractions were pooled, dialysed against 10 mM acetate buffer (pH 60) containing 1 M ammonium sulphate and 5 mM calcium chloride and centrifuged to obtain a supernatant which was then fed to a column packed with 100 ml of BUTYL-TOYOPEARL (RTM) 650 which had been equilibrated with 10 mM acetate buffer (pH 6.0) containing 5 mM calcium chloride and fed with a linear gradient buffer of ammonium sulphate decreasing from 1 M to 0 M in 10 mM acetate buffer (pH 6.0) containing 5 mM calcium chloride followed by collecting fractions eluted at around 0.1 M ammonium sulphate.

Thereafter the fractions were pooled, dialysed against 10 mM acetate buffer (pH 6.0) containing 5 mM calcium chloride and centrifuged to obtain a supernatant which was then fed to a column packed with 10 ml of DEAE-TOYOPEARL (RTM) 650 which had been equilibrated with 10 mM acetate buffer (pH 6.0) containing 5 mM calcium chloride, and fractionated similarly as above to obtain 14 mg of a purified beta -fructofuranosidase with a specific activity of 205 units/mg protein. When electrophoresed on SDS-PAGE, the purified beta -fructofuranosidase was observed as a substantially single protein band

with beta -fructofuranosidase activity. (GS6)

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Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw. Desc | Image

☐ 97. Document ID: DE 19617687 A1 JP 2001517930 W WO 9742331 A1 AU 9727741 A EP 944727 A1 AU 718897 B DE 19617687 C2 US 6255562 B1

L5: Entry 97 of 104 File: DWPI Nov 6, 1997

DERWENT-ACC-NO: 1997-551077
DERWENT-WEEK: 200174
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TITLE: Modified fructosyl transferase gene encoding protein with inulin sucrase activity - for creating transgenic plants that produce high-molecular-weight inulin

INVENTOR: HEYER, A G; WENDENBURG, R

PRIORITY-DATA: 1996DE-1017687 (May 3, 1996)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
DE 19617687 A1	November 6, 1997		013	A01H005/00
JP 2001517930 W	October 9, 2001		027	C12N015/09
WO 9742331 A1	November 13, 1997	G	041	C12N015/82
AU 9727741 A	November 26, 1997		000	C12N015/82
EP 944727 A1	September 29, 1999	G	000	C12N015/82
AU 718897 B	April 20, 2000		000	C12N015/82
DE 19617687 C2	November 16, 2000		000	A01H005/00
US 6255562 B1	July 3, 2001		000	C12N015/31

INT-CL (IPC): A01 H 1/00; A01 H 5/00; A01 H 5/08; A01 H 5/10; C08 B 37/18; C12 N 1/21; C12 N 5/10; C12 N 9/10; C12 N 9/38; C12 N 9/48; C12 N 15/09; C12 N 15/31; C12 N 15/54; C12 N 15/63; C12 N 15/82; C12 P 19/04; C12 Q 1/68

ABSTRACTED-PUB-NO: DE 19617687A
BASIC-ABSTRACT:

The following are claimed:

(1) a modified fructosyl transferase (ftf) gene in which the amino-terminal region is replaced by the amino-terminal region of another gene and which codes for a protein with inulin sucrase activity;

(2) a vector containing the modified ftf gene of (1);

(3) a cell containing the vector of (2) or the modified ftf gene of (1);

(4) a plant containing at least 1 cell as in (3);

(5) seeds and fruit of the plant of (4);

(6) inulin with a molecular weight > 1500 kDa obtainable from the plant of (4), and

(7) the use of a peptide comprising the 60 amino-terminal amino acids of the patatin B33 pro-peptide, or a DNA sequence encoding this peptide, for transport of a gene product into a plant vacuole.

USE - ftf are used as substitutes for water-soluble synthetic polymers such as

poly(meth)acrylates.

ADVANTAGE - High-molecular-weight bacterial inulin can be produced in plants.
ABSTRACTED-PUB-NO:

US 6255562B EQUIVALENT-ABSTRACTS:

The following are claimed:

(1) a modified fructosyl transferase (ftf) gene in which the amino-terminal region is replaced by the amino-terminal region of another gene and which codes for a protein with inulin sucrase activity;

(2) a vector containing the modified ftf gene of (1);

(3) a cell containing the vector of (2) or the modified ftf gene of (1);

(4) a plant containing at least 1 cell as in (3);

(5) seeds and fruit of the plant of (4);

(6) inulin with a molecular weight > 1500 kDa obtainable from the plant of (4), and

(7) the use of a peptide comprising the 60 amino-terminal amino acids of the patatin B33 pro-peptide, or a DNA sequence encoding this peptide, for transport of a gene product into a plant vacuole.

USE - ftf are used as substitutes for water-soluble synthetic polymers such as poly(meth)acrylates.

ADVANTAGE - High-molecular-weight bacterial inulin can be produced in plants.

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC
Draw. Desc | Clip Img | Image

☐ 98. Document ID: US 20020192771 A1 WO 9734004 A1 AU 9722338 A EP 889134 A1 JP 09532435 X US 6337201 B1

L5: Entry 98 of 104 File: DWPI Dec 19, 2002

DERWENT-ACC-NO: 1997-470884
DERWENT-WEEK: 200303
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TITLE: Aspergillus niger beta-fructofuranosidase - useful for conversion of sugars, e.g. sucrose to fructo-oligosaccharide such as 1-ketose

INVENTOR: BABA, Y; HIRAYAMA, M ; NAKAMURA, H ; NAKANE, A ; WATABE, A ; YANAI, K

PRIORITY-DATA: 1996JP-0197842 (July 26, 1996), 1996JP-0053522 (March 11, 1996)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
US 20020192771 A1	December 19, 2002		000	C12P019/04
WO 9734004 A1	September 18, 1997	J	117	C12N015/56
AU 9722338 A	October 1, 1997		000	C12N015/56
EP 889134 A1	January 7, 1999	E	000	C12N015/56
JP 09532435 X	April 27, 1999		000	C12N015/56
US 6337201 B1	January 8, 2002		000	C12N009/24

INT-CL (IPC): C07 H 21/04; C07 K 14/00; C12 N 5/06; C12 N 9/24; C12 N 15/56; C12 P 19/04; C12 P 21/02; C12 N 15/56; C12 R 1:685; C12 N 9/24; C12 R 1:685; C12 N 15/56; C12

R 1:685; C12 N 9/24; C12 R 1:685

ABSTRACTED-PUB-NO: US 6337201B
BASIC-ABSTRACT:

beta -fructofuranosidase (beta -FF), or a modified variant, having the 635 residue amino acid sequence given in the specification, is new. Also new are: (1) DNA molecule, preferably having the 1905 bp nucleic acid sequence given in the specification, encoding the beta -FF; (2) plasmid vector comprising the DNA molecule; and (3) transformed host, especially a filamentous fungus, comprising the vector.

USE - The beta -FF can be used for the selective and efficient conversion of sugars, e.g. sucrose to a fructo-oligosaccharide such as a 1-ketose.
ABSTRACTED-PUB-NO:

WO 9734004A EQUIVALENT-ABSTRACTS:

beta -fructofuranosidase (beta -FF), or a modified variant, having the 635 residue amino acid sequence given in the specification, is new. Also new are: (1) DNA molecule, preferably having the 1905 bp nucleic acid sequence given in the specification, encoding the beta -FF; (2) plasmid vector comprising the DNA molecule; and (3) transformed host, especially a filamentous fungus, comprising the vector.

USE - The beta -FF can be used for the selective and efficient conversion of sugars, e.g. sucrose to a fructo-oligosaccharide such as a 1-ketose.

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw. Desc | Image

☐ 99. Document ID: US 20020170092 A1 WO 9729186 A1 NL 1002275 C2 AU 9716745 A EP 1015562 A1 AU 732087 B

L5: Entry 99 of 104 File: DWPI Nov 14, 2002

DERWENT-ACC-NO: 1997-415342
DERWENT-WEEK: 200277
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TITLE: Manufacturing modified polysaccharide(s) - by treatment with sugar group transferring enzyme and donor, useful in foods, drilling fluids, glues, paper coatings and catalyst carriers

INVENTOR: GERRITS, N; SMEEKENS, J C M ; TURK, S C H ; WEISBEEK, P J ; TURK, S C H J ; TURK, S

PRIORITY-DATA: 1996NL-1002275 (February 7, 1996)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
US 20020170092 A1	November 14, 2002		000	A01H005/00
WO 9729186 A1	August 14, 1997	E	056	C12N009/10
NL 1002275 C2	August 8, 1997		036	C12N009/10
AU 9716745 A	August 28, 1997		000	C12N009/10
EP 1015562 A1	July 5, 2000	E	000	C12N009/10
AU 732087 B	April 12, 2001		000	C12N009/10

INT-CL (IPC): A01 H 5/00; A23 L 1/00; A23 L 1/052; C08 B 37/00; C12 N 9/10; C12 N 15/54; C12 N 15/82; C12 P 19/04; C12 P 19/18

ABSTRACTED-PUB-NO: WO 9729186A
BASIC-ABSTRACT:

Manufacturing modified polysaccharides (MP), comprises treating a starting polysaccharide with a sugar group transferring enzyme and donor. Also new are: (1) MP manufactured as above; (2) population of modified starch granules (MSG), having smaller diameter and more uniform size distribution than those produced by wild type plants; and (3) transgenic plant, or a part or reproductive material, including cells containing functional DNA for fructosyl transferase.

USE - The MP are useful in foods (e.g. as stabilisers, thickeners, gelling agents, nutritional fibres, low-calorie fillers or pre-biotic agents), flocculants, dispersants, chelating agents for heavy metal ions, bioplastics, drilling fluids, glues and as biodegradable adhesives. A particular application is to improve the shelf life of baked goods and sauces. MSG are used as fat substitutes, to encapsulate aromas and/or flavourings in foods, as paper coatings, chromatography materials, catalyst or pigment carriers, bases for cosmetic creams, in paints and as slow-release systems for agricultural chemicals.

ADVANTAGE - Polysaccharides can now be modified by a natural process that does not involve the use of synthetic chemicals. MSG have altered viscosity properties during gelation, and very small particles are stable in solution, forming a non-precipitating latex (favourable for pumping and storage) and providing a slow-release material of high surface to volume ratio. Modified starches also have better retrogradation properties, i.e. slower aging.

☐ 100. Document ID: EP 663442 A1 ES 2138645 T3 AU 9480431 A BR 9405235 A JP 08047394 A CA 2141979 A US 5641667 A AU 682727 B US 5731173 A EP 663442 B1 DE 69419892 E

L5: Entry 100 of 104 File: DWPI Jul 19, 1995

DERWENT-ACC-NO: 1995-247529
DERWENT-WEEK: 200011
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TITLE: New fructosyl:transferase from Acetobacter diazotrophicus - for the prodn. of fructo-oligosaccharide and fructan cpds. from sucrose, useful e.g. as low calorie sweeteners.

INVENTOR: GARCIA, L H; GONZALEZ, A C ; SOSA, G S ; SOSA, J G A ; HERNANDEZ GARCIA, L

PRIORITY-DATA: 1993CU-0000125 (December 23, 1993), 1995CA-2141979 (February 7, 1995)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
EP 663442 A1	July 19, 1995	E	016	C12N009/10
ES 2138645 T3	January 16, 2000		000	C12N009/10
AU 9480431 A	July 6, 1995		000	C12N009/10
BR 9405235 A	August 1, 1995		000	C12P019/34
JP 08047394 A	February 20, 1996		021	C12N015/09
CA 2141979 A	August 8, 1996		000	C12N015/54
US 5641667 A	June 24, 1997		011	C12N009/10
AU 682727 B	October 16, 1997		000	C12N009/10
US 5731173 A	March 24, 1998		010	C12P019/18
EP 663442 B1	August 4, 1999	E	000	C12N009/10
DE 69419892 E	September 9, 1999		000	C12N009/10

INT-CL (IPC): C07 H 21/04; C07 K 14/195; C07 M 7/00; C12 N 1/00; C12 N 1/14; C12 N 1/19; C12 N 1/20; C12 N 1/21; C12 N 9/10; C12 N 15/09; C12 N 15/54; C12 N 15/74; C12 N

15/79; C12 P 19/04; C12 P 19/18; C12 P 19/34; C12 P 21/06; C12 R 1/02; C12 N 9/10; C12 R 1:02; C12 N 9/10; C12 R 1:02; C12 N 9/10; C12 R 1:02; C12 N 15/09; C12 R 1:02; C12 N 1/19; C12 R 1:84; C12 N 1/21; C12 R 1:19; C12 N 9/10; C12 R 1:19; C12 N 9/10; C12 R 1:84; C12 N 9/10; C12 R 1:02

ABSTRACTED-PUB-NO: EP 663442A
BASIC-ABSTRACT:

A new isolated, purified DNA (I) is a 1632 bp genomic sequence representing the fructosyltransferase (FT) gene of Acetobacter diazotrophicus (A.d.), or a sequence that hybridises with this.

USE - FT (or cells producing it) are used to produce fructo-oligosaccharides (FO) and/or fructans by treatment of sucrose under transfructosylating conditions. The FT may be native material from A.d. strain SRT4 (CBS 549.94) or recombinant enzyme produced by the new host cells. FO, e.g. kestose or kestotetraose, are useful as low-calorie sweeteners. Fructan polymers are low-calorie dietary fibre e.g. for relief of constipation, improving blood lipid compsn., lowering cholesterol levels etc., also as sources of fructose, blood plasma extenders, emulsifiers and encapsulating agents. (I) is used in prodn. of recombinant FT; fragments of it are useful as probes and primers.

ADVANTAGE - FT provides high yields of FO from sucrose, and can be produced at increased levels in recombinant cells.
ABSTRACTED-PUB-NO:

EP 663442B EQUIVALENT-ABSTRACTS:

A new isolated, purified DNA (I) is a 1632 bp genomic sequence representing the fructosyltransferase (FT) gene of Acetobacter diazotrophicus (A.d.), or a sequence that hybridises with this.

USE - FT (or cells producing it) are used to produce fructo-oligosaccharides (FO) and/or fructans by treatment of sucrose under transfructosylating conditions. The FT may be native material from A.d. strain SRT4 (CBS 549.94) or recombinant enzyme produced by the new host cells. FO, e.g. kestose or kestotetraose, are useful as low-calorie sweeteners. Fructan polymers are low-calorie dietary fibre e.g. for relief of constipation, improving blood lipid compsn., lowering cholesterol levels etc., also as sources of fructose, blood plasma extenders, emulsifiers and encapsulating agents. (I) is used in prodn. of recombinant FT; fragments of it are useful as probes and primers.

ADVANTAGE - FT provides high yields of FO from sucrose, and can be produced at increased levels in recombinant cells.

US 5641667A

A novel isolated and purified DNA molecule has fructosyltransferase gene with the 1632 bp DNA sequence, of the bacterium Acetobacter diazotrophicus.

US 5731173A

A new isolated, purified DNA (I) is a 1632 bp genomic sequence representing the fructosyltransferase (FT) gene of Acetobacter diazotrophicus (A.d.), or a sequence that hybridises with this.

USE - FT (or cells producing it) are used to produce fructo-oligosaccharides (FO) and/or fructans by treatment of sucrose under transfructosylating conditions. The FT may be native material from A.d. strain SRT4 (CBS 549.94) or recombinant enzyme produced by the new host cells. FO, e.g. kestose or kestotetraose, are useful as low-calorie sweeteners. Fructan polymers are low-calorie dietary fibre e.g. for relief of constipation, improving blood lipid compsn., lowering cholesterol levels etc., also as sources of fructose, blood plasma extenders, emulsifiers and encapsulating agents. (I) is used in prodn. of recombinant FT; fragments of it are useful as probes and primers.

ADVANTAGE - FT provides high yields of FO from sucrose, and can be produced at increased levels in recombinant cells.

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw Desc | Image

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Terms	Documents
l4 and (gene or nucleic acid or dna or cdna)	104

Display Format: - Change Format

Previous Page Next Page

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Search Results - Record(s) 101 through 104 of 104 returned.

☐ 101. Document ID: WO 9513389 A1 US 5908975 A AU 9512087 A ZA 9408867 A EP 728213 A1 JP 09505467 W BR 9408286 A HU 75075 T

L5: Entry 101 of 104 File: DWPI May 18, 1995

DERWENT-ACC-NO: 1995-194107
DERWENT-WEEK: 199929
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TITLE: Production of fructose polymers by transgenic crop plants - which contain DNA constructs with a tissue specific promoter, vacuole targetting sequence and a bacterial fructosyl:transferase gene

INVENTOR: CAIMI, P G; HERSHEY, H P ; KERR, P S ; HERESHEY, H P

PRIORITY-DATA: 1993US-0149689 (November 9, 1993), 1996US-0640732 (May 6, 1996)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
WO 9513389 A1	May 18, 1995	E	133	C12N015/82
US 5908975 A	June 1, 1999		000	A01H005/00
AU 9512087 A	May 29, 1995		000	C12N015/82
ZA 9408867 A	July 31, 1996		132	A01N000/00
EP 728213 A1	August 28, 1996	E	000	C12N015/82
JP 09505467 W	June 3, 1997		116	C12N015/09
BR 9408286 A	August 26, 1997		000	C12N015/82
HU 75075 T	April 28, 1997		000	C12N015/82

INT-CL (IPC): A01 H 5/00; A01 H 5/10; A01 N 0/00; C12 N 5/10; C12 N 5/14; C12 N 9/10; C12 N 15/09; C12 N 15/31; C12 N 15/54; C12 N 15/82; C12 N 15/09; C12 R 1:07; C12 N 9/10; C12 R 1:91

ABSTRACTED-PUB-NO: US 5908975A
BASIC-ABSTRACT:

The following are new: (a) a recombinant DNA construct (I) comprising a tissue specific promoter (TSP) operably linked to a vacuole targeting sequence (VTS) and a coding sequence for a levansucrase gene; (b) a recombinant DNA construct (II) comprising a TSP and a VTS operably linked to a dextransucrase gene; (c) a recombinant DNA construct (III) comprising a TSP and a VTS operably linked to an alternansucrase gene; such that the constructs are capable of transforming a plant cell selected from corn, potato or tobacco, to obtain production of fructan, dextran or alternan, respectively, in the plant cell vacuole.

USE - The recombinant constructs may be used to transform plants to allow scale prodn. of fructan, dextran and alternan (claimed). Construct (I) is specifically used to increase fructan levels in a plant which has a higher than native sucrose level. Alternans produced in this manner would be an excellent replacement for gum arabic.

ADVANTAGE - Transformation of plants with a fructosyltransferase gene results in the introduction of a gene that would not otherwise be possible through traditional breeding, to inbred or elite lines which are well adapted to specific growing regions. Transformation of a plant such as corn offers the advantage of fructan accumulation in a plant which cannot degrade it, thus eliminating problems of storage and breakdown of

the desired product. The prodn. of fructan (and subsequently fructose) produces higher yields of fructose than prodn. of sucrose and its subsequent conversion to fructose.
ABSTRACTED-PUB-NO:

WO 9513389A EQUIVALENT-ABSTRACTS:

The following are new: (a) a recombinant DNA construct (I) comprising a tissue specific promoter (TSP) operably linked to a vacuole targeting sequence (VTS) and a coding sequence for a levansucrase gene; (b) a recombinant DNA construct (II) comprising a TSP and a VTS operably linked to a dextransucrase gene; (c) a recombinant DNA construct (III) comprising a TSP and a VTS operably linked to an alternansucrase gene; such that the constructs are capable of transforming a plant cell selected from corn, potato or tobacco, to obtain production of fructan, dextran or alternan, respectively, in the plant cell vacuole.

USE - The recombinant constructs may be used to transform plants to allow scale prodn. of fructan, dextran and alternan (claimed). Construct (I) is specifically used to increase fructan levels in a plant which has a higher than native sucrose level. Alternans produced in this manner would be an excellent replacement for gum arabic.

ADVANTAGE - Transformation of plants with a fructosyltransferase gene results in the introduction of a gene that would not otherwise be possible through traditional breeding, to inbred or elite lines which are well adapted to specific growing regions. Transformation of a plant such as corn offers the advantage of fructan accumulation in a plant which cannot degrade it, thus eliminating problems of storage and breakdown of the desired product. The prodn. of fructan (and subsequently fructose) produces higher yields of fructose than prodn. of sucrose and its subsequent conversion to fructose.

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC
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☐ 102. Document ID: ES 2191028 T3 WO 9414970 A1 NL 9300646 A AU 9458437 A EP 677112 A1 JP 08507918 W HU 71782 T US 5986173 A US 6025542 A RU 2152997 C2 EP 677112 B1 DE 69332803 E

L5: Entry 102 of 104 File: DWPI Sep 1, 2003

DERWENT-ACC-NO: 1994-234704
DERWENT-WEEK: 200365
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TITLE: Prodn. of transgenic plants with modified fructan pattern - results in plants with improved performance due to altered sink-source relations and yield and increase stress

INVENTOR: EBSKAMP, M J M; SMEEKENS, J C M ; WEISBEEK, P J ; EBSKAMP, M J J

PRIORITY-DATA: 1993NL-0000646 (April 15, 1993), 1992EP-0204098 (December 28, 1992)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
ES 2191028 T3	September 1, 2003		000	C12N015/82
WO 9414970 A1	July 7, 1994	E	042	C12N015/82
NL 9300646 A	July 18, 1994		036	C12N015/82
AU 9458437 A	July 19, 1994		000	C12N015/82
EP 677112 A1	October 18, 1995	E	000	C12N015/82
JP 08507918 W	August 27, 1996		047	C12N015/09
HU 71782 T	February 28, 1996		000	C12N015/82
US 5986173 A	November 16, 1999		000	C12N015/82
US 6025542 A	February 15, 2000		000	A01H005/00
RU 2152997 C2	July 20, 2000		000	C12N015/54
EP 677112 B1	March 26, 2003	E	000	C12N015/82
DE 69332803 E	April 30, 2003		000	C12N015/82

INT-CL (IPC): A01 H 1/06; A01 H 5/00; A23 K 1/00; A23 L 1/00; A23 L 1/09; A23 L 1/307; C08 B 37/00; C12 N 5/10; C12 N 5/14; C12 N 15/09; C12 N 15/11; C12 N 15/29; C12 N 15/31; C12 N 15/54; C12 N 15/82; C12 P 19/00; C12 P 19/04

ABSTRACTED-PUB-NO: US 5986173A
BASIC-ABSTRACT:

Method for obtaining transgenic plants showing a modified fructan pattern comprising (a) preparing a DNA construct (I) comprising one or more fructosyl transferase genes (or modified versions), operably linked to a promoter sequence active in plants and a terminator sequence active in plants; (b) transforming a plant cell with the construct; and (c) regenerating a transgenic plant from the transformed plant cell.

(I) is claimed per se. (I) pref. also comprises a targetting sequence upstream from the fructosyl transferase gene.

The 5' untranslated region of the fructosyl- transferase gene is modified such that the expression of the fructosyl transferase is not negatively affected. The fructosyl transferase gene is pref. the sacB gene of Bacillus subtilis or the ftf gene of Streptococcus mutans.

USE/ADVANTAGE - The fructosyl transferases produced in the transgenic plants change the fructan pattern of the plants leading to improved plant performance due to altered sink-source relations and yield, or improved performance under a biotic and biotic stresses, such as the plants may also be used as raw material for fructan prodn.. As well as increased tolerance for drought, cold or other stresses, the transgenic plants have higher dry matter content, better taste or storability and improved nutritional value.
ABSTRACTED-PUB-NO:

US 6025542A EQUIVALENT-ABSTRACTS:

Method for obtaining transgenic plants showing a modified fructan pattern comprising (a) preparing a DNA construct (I) comprising one or more fructosyl transferase genes (or modified versions), operably linked to a promoter sequence active in plants and a terminator sequence active in plants; (b) transforming a plant cell with the construct; and (c) regenerating a transgenic plant from the transformed plant cell.

(I) is claimed per se. (I) pref. also comprises a targetting sequence upstream from the fructosyl transferase gene.

The 5' untranslated region of the fructosyl- transferase gene is modified such that the expression of the fructosyl transferase is not negatively affected. The fructosyl transferase gene is pref. the sacB gene of Bacillus subtilis or the ftf gene of Streptococcus mutans.

USE/ADVANTAGE - The fructosyl transferases produced in the transgenic plants change the fructan pattern of the plants leading to improved plant performance due to altered sink-source relations and yield, or improved performance under a biotic and biotic stresses, such as the plants may also be used as raw material for fructan prodn.. As well as increased tolerance for drought, cold or other stresses, the transgenic plants

have higher dry matter content, better taste or storability and improved nutritional value.

Method for obtaining transgenic plants showing a modified fructan pattern comprising (a) preparing a DNA construct (I) comprising one or more fructosyl transferase genes (or modified versions), operably linked to a promoter sequence active in plants and a terminator sequence active in plants; (b) transforming a plant cell with the construct; and (c) regenerating a transgenic plant from the transformed plant cell.

(I) is claimed per se. (I) pref. also comprises a targetting sequence upstream from the fructosyl transferase gene.

The 5' untranslated region of the fructosyl- transferase gene is modified such that the expression of the fructosyl transferase is not negatively affected. The fructosyl transferase gene is pref. the sacB gene of Bacillus subtilis or the ftf gene of Streptococcus mutans.

USE/ADVANTAGE - The fructosyl transferases produced in the transgenic plants change the fructan pattern of the plants leading to improved plant performance due to altered sink-source relations and yield, or improved performance under a biotic and biotic stresses, such as the plants may also be used as raw material for fructan prodn.. As well as increased tolerance for drought, cold or other stresses, the transgenic plants have higher dry matter content, better taste or storability and improved nutritional value.

WO 9414970A

☐ 103. Document ID: DE 4227061 A1 WO 9404692 A1 AU 9349468 A EP 663956 A1 JP 08500015 W HU 70977 T AU 682472 B AU 9851084 A US 5792923 A US 6028249 A AU 725657 B US 6501005 B1

L5: Entry 103 of 104 File: DWPI Feb 17, 1994

DERWENT-ACC-NO: 1994-058294
DERWENT-WEEK: 200322
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TITLE: A poly:fructane sucrase DNA sequence from Erwinia Amylovora - is used for prodn. of transgenic plants expressing poly:fructane in leave(s) or nodules, useful as biodegradable substance in industry

INVENTOR: GEIDER, K; GEIER, G ; ROBER, M ; WILLMITZER, L ; ROEBER, M

PRIORITY-DATA: 1992DE-4227061 (August 12, 1992)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
DE 4227061 A1	February 17, 1994		015	A01H005/00
WO 9404692 A1	March 3, 1994	E	033	C12N015/82
AU 9349468 A	March 15, 1994		000	C12N015/82
EP 663956 A1	July 26, 1995	E	000	C12N015/82
JP 08500015 W	January 9, 1996		033	C12N015/09
HU 70977 T	November 28, 1995		000	C12N015/82
AU 682472 B	October 9, 1997		000	C12N015/56
AU 9851084 A	March 19, 1998		000	C12N015/56
US 5792923 A	August 11, 1998		000	A01H005/00
US 6028249 A	February 22, 2000		000	C12N015/31
AU 725657 B	October 19, 2000		000	C12N015/56
US 6501005 B1	December 31, 2002		000	A01H005/00

INT-CL (IPC): A01H 4/00; A01H 5/00; A01H 5/06; A01H 5/12; C12N 5/04; C12N 9/10; C12N 15/09; C12N 15/31; C12N 15/52; C12N 15/54; C12N 15/56; C12N 15/82; C12N 15/84; C12P 19/04; C12N 15/09; C12R 1/18

ABSTRACTED-PUB-NO: DE 4227061A
BASIC-ABSTRACT:

The DNA sequence (I) shown in the specification (748 bases) for a polyfructane (laevan) saccharose:beta-D-fructosyl transferase (sucrase) from the gram-negative bacteria Erwinia amylovora allowing the expression of polyfructane in plant leaves and nodules after integration into the genome is new.

Also claimed as plasmids contg. (I); prodn. of transgenic plants with polyfructane expression in leaves and nodules and the plants themselves.

Specifically claimed are p35s-CW-LEV(DSM7186), p35s-CY-LEV(DSM7187) and p33-CW-LEV(DSM7188).

USE/ADVANTAGE - High molecular, water-soluble, linear polymers are useful in increasing the viscosity of aq. systems, in sedimentation, as complexing agents, as super absorbers for water-binding and in water-dilutable lacquers. In contrast to prior art prods. derived from mineral oil, e.g. polyacrylates or polymethylacrylates, the polyfructanes produced by plants are biodegradable. Using the enzyme in transgenic plants, large quantities of polyfructanes can be produced.
ABSTRACTED-PUB-NO:

US 5792923A EQUIVALENT-ABSTRACTS:

The DNA sequence (I) shown in the specification (748 bases) for a polyfructane (laevan) saccharose:beta-D-fructosyl transferase (sucrase) from the gram-negative bacteria Erwinia amylovora allowing the expression of polyfructane in plant leaves and nodules after integration into the genome is new.

Also claimed as plasmids contg. (I); prodn. of transgenic plants with polyfructane expression in leaves and nodules and the plants themselves.

Specifically claimed are p35s-CW-LEV(DSM7186), p35s-CY-LEV(DSM7187) and p33-CW-LEV(DSM7188).

USE/ADVANTAGE - High molecular, water-soluble, linear polymers are useful in increasing the viscosity of aq. systems, in sedimentation, as complexing agents, as super absorbers for water-binding and in water-dilutable lacquers. In contrast to prior art prods. derived from mineral oil, e.g. polyacrylates or polymethylacrylates, the polyfructanes produced by plants are biodegradable. Using the enzyme in transgenic plants, large quantities of polyfructanes can be produced.

US 6028249A

The DNA sequence (I) shown in the specification (748 bases) for a polyfructane (laevan) saccharose:beta-D-fructosyl transferase (sucrase) from the gram-negative bacteria Erwinia amylovora allowing the expression of polyfructane in plant leaves and nodules

after integration into the genome is new.

Also claimed as plasmids contg. (I); prodn. of transgenic plants with polyfructane expression in leaves and nodules and the plants themselves.

Specifically claimed are p35s-CW-LEV(DSM7186), p35s-CY-LEV(DSM7187) and p33-CW-LEV(DSM7188).

USE/ADVANTAGE - High molecular, water-soluble, linear polymers are useful in increasing the viscosity of aq. systems, in sedimentation, as complexing agents, as super absorbers for water-binding and in water-dilutable lacquers. In contrast to prior art prods. derived from mineral oil, e.g. polyacrylates or polymethylacrylates, the polyfructanes produced by plants are biodegradable. Using the enzyme in transgenic plants, large quantities of polyfructanes can be produced.

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC
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☐ 104. Document ID: EP 117823 A FR 2542011 A JP 60500598 W WO 8403518 A

L5: Entry 104 of 104 File: DWPI Sep 5, 1984

DERWENT-ACC-NO: 1984-220944
DERWENT-WEEK: 198436
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TITLE: Cloning and expression vectors for sacB gene - bacteria transformed by these vectors, esp. escherichia coli and bacillus subtilis, produce e.g.laevan saccharase

INVENTOR: GAY, P B; LECOQ, D G ; STEINMETZ, M H

PRIORITY-DATA: 1983FR-0003320 (March 1, 1983)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
EP 117823 A	September 5, 1984	F	025	
FR 2542011 A	September 7, 1984		000	
JP 60500598 W	May 2, 1985		000	
WO 8403518 A	September 13, 1984	F	000	

INT-CL (IPC): C12F 21/02; C12N 1/20; C12N 9/10; C12N 15/00; C12P 21/02; C12R 1/19

ABSTRACTED-PUB-NO: EP 117823A
BASIC-ABSTRACT:

Cloning and expression vectors carrying elements for the expression of the SocB gene, and the saeB gene, as well as a source for replication of a plasmid. Bacteria transformed by these vectors are also claimed.

Preparation of laevarsaccharase or beta-2,6-fructan:D-glucose-1-fructosyl transferase E.C.2.4.1.10. This is an enzyme secreted in culture medium by Bacillus subtilis, after induction of saccharose. It catalyses the reaction:- saccharose + acceptor glucose + acceptor-fructose. Acceptors include water (hydrolysis) or laevans (reactions for lengthing laevans). This transfructosylation reaction, catalysed by laevan saccharose allows fructose to be obtained in the form of high polymers from saccharose. This process may be used to convert low value molasses into a more useful sugar. The present invention provides a source for production of the enzyme.

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Terms	Documents
l4 and (gene or nucleic acid or dna or cdna)	104

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Previous Page Next Page